

CHAPTER 3

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Current entrance to Eagle Island State Park.



CLIMATOLOGICAL SUMMARY

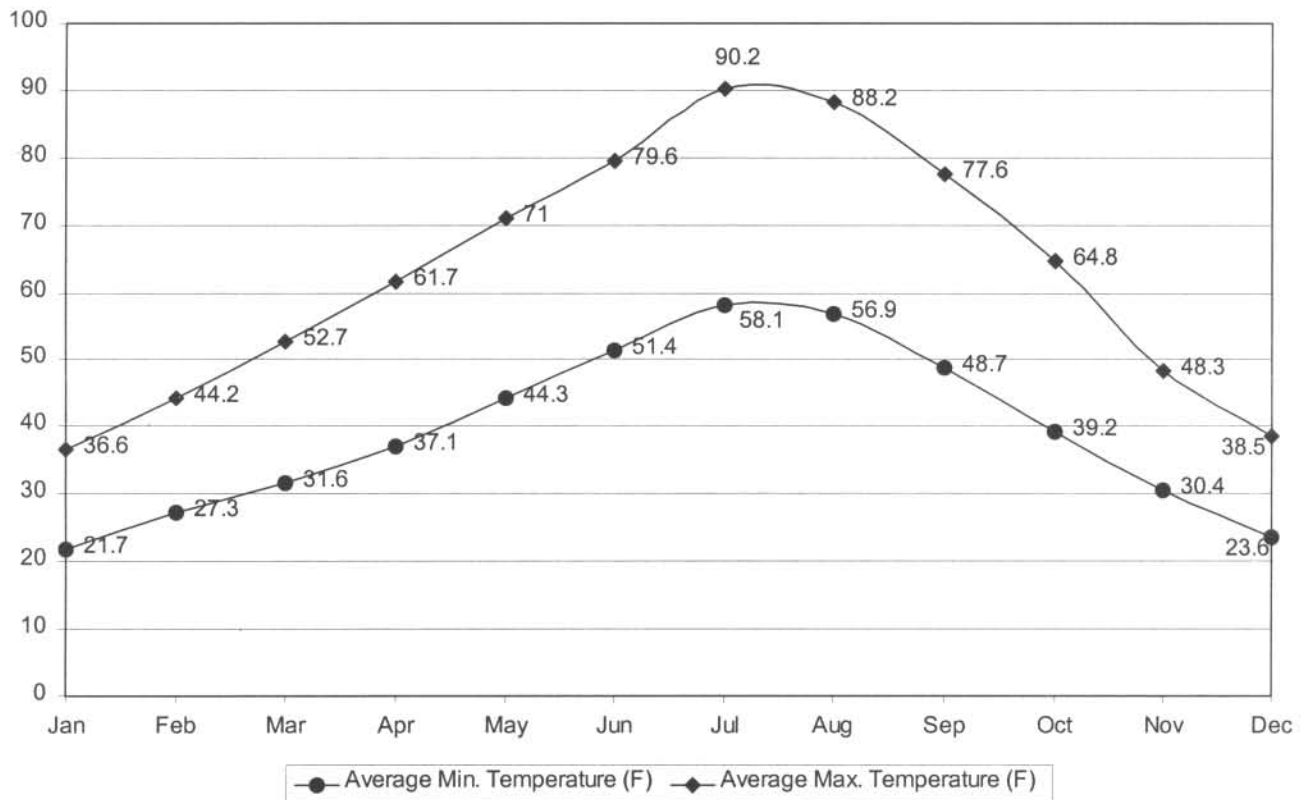
Hot dry summers and moderately cold winters characterize the climate in the lower Boise River Valley. Dominant air patterns are eastward moving Pacific maritime air masses from which most of the moisture has been removed by the Cascade Mountains and other intervening topographical barriers.

tively small for an inland middle latitude state. The lower Boise River Valley enjoys a relatively dry and temperate climate, which is enhanced by enough seasonal variation to make the climate stimulating.

Temperature

Hot summer periods rarely last longer

Monthly Temperature Summary at Boise, Idaho



ers. Their influence during the winter months is occasionally overwhelmed by polar continental air masses bringing periods of extremely low temperatures. The resultant effect of these air masses is almost a typical upland continental type of climate in summer, but one tempered by periods of cloudy, stormy or mild weather nearly every winter. From year to year, average monthly or even seasonal temperatures vary through a wide range, yet day to day changes are compara-

than a few days, but maximum temperatures of 100 degrees or higher occur nearly every year. Summer maximums generally are reached in the late afternoon, followed by rapidly falling temperatures after sunset. The record summer high was 111°F in July 1955 and the record summer low was 31°F in June 1995. The average summer temperature is 70° and the average winter temperature is 32°F. Winter cold spells are due to cold air masses from the north. The record winter

Fig. 3.1



high was 71° in February 1992, and the record low was 25° below 0°F in December 1990. Fig. 3.1 illustrates average monthly temperatures in Boise.

Precipitation

The normal precipitation pattern in the lower Boise River Valley shows a winter maximum and a pronounced summer mini-

Terminal location, occupied since 1940, the greatest 24-hour precipitation has been 2.24 inches (June 1958). Since the beginning of detailed record keeping (December 1, 1898), the greatest one-hour precipitation has been 0.98 inches (July 1912). Greatest depth of snow on the ground has been 26 inches (December 1983). Average snow-fall is shown in Fig. 3.3. On average, four

Average Monthly Precipitation (in.) in Boise, Idaho

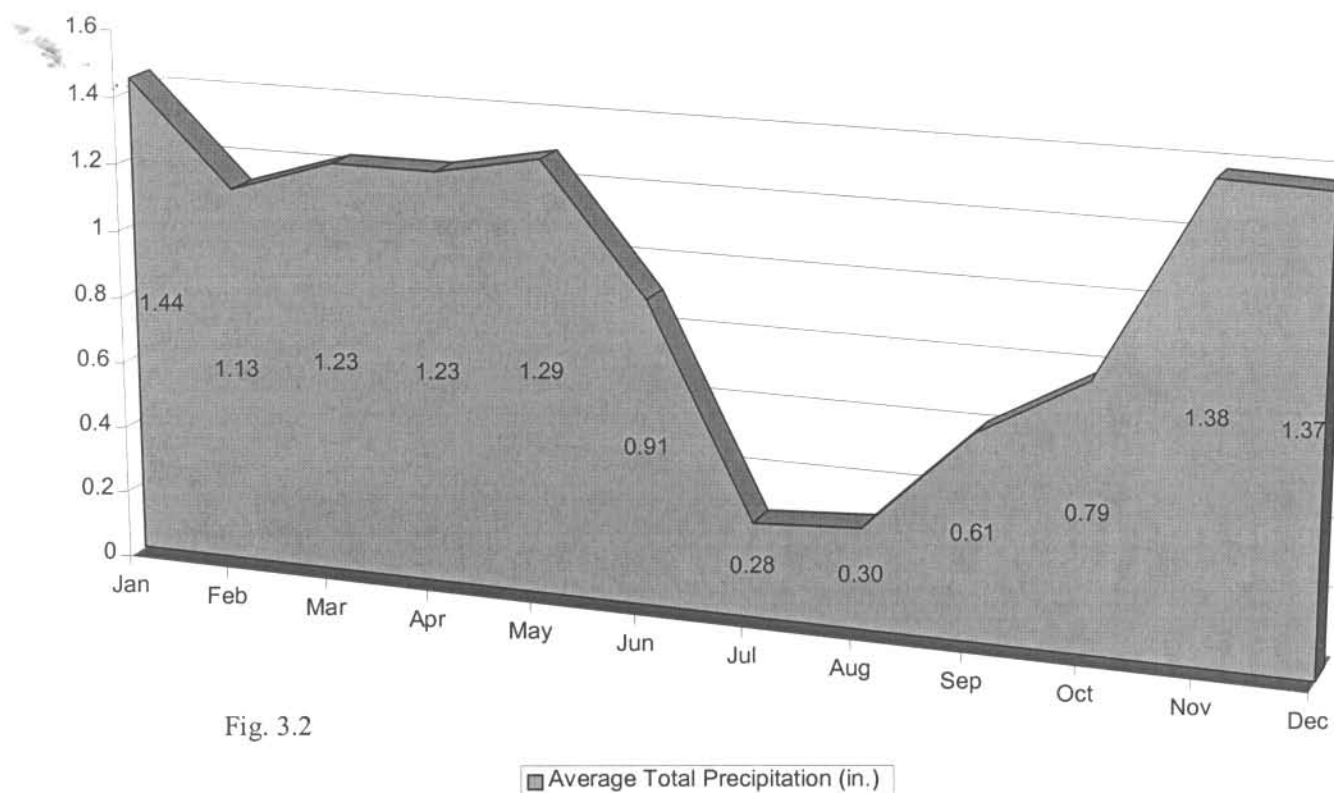


Fig. 3.2

mum. The average monthly winter precipitation rate is 1.33 inches. The average monthly summer precipitation rate is 0.5 inches. Fig. 3.2 illustrates average monthly precipitation in Boise.

Total amount and intensity are generally greatest near the foothills. Since the beginning of records in 1884, the greatest 24-hour precipitation has been 2.72 inches (March 1971). At the present Boise Air

hail storms are reported each year.

Winds

Tornadoes have rarely been reported at Boise, and winds approaching destructive force are rare; 71 mph in July 1987 is the highest since weather records have been kept locally. Northwestern winds, descending from the nearby foothills after sunset, frequently have a moderating effect on winter



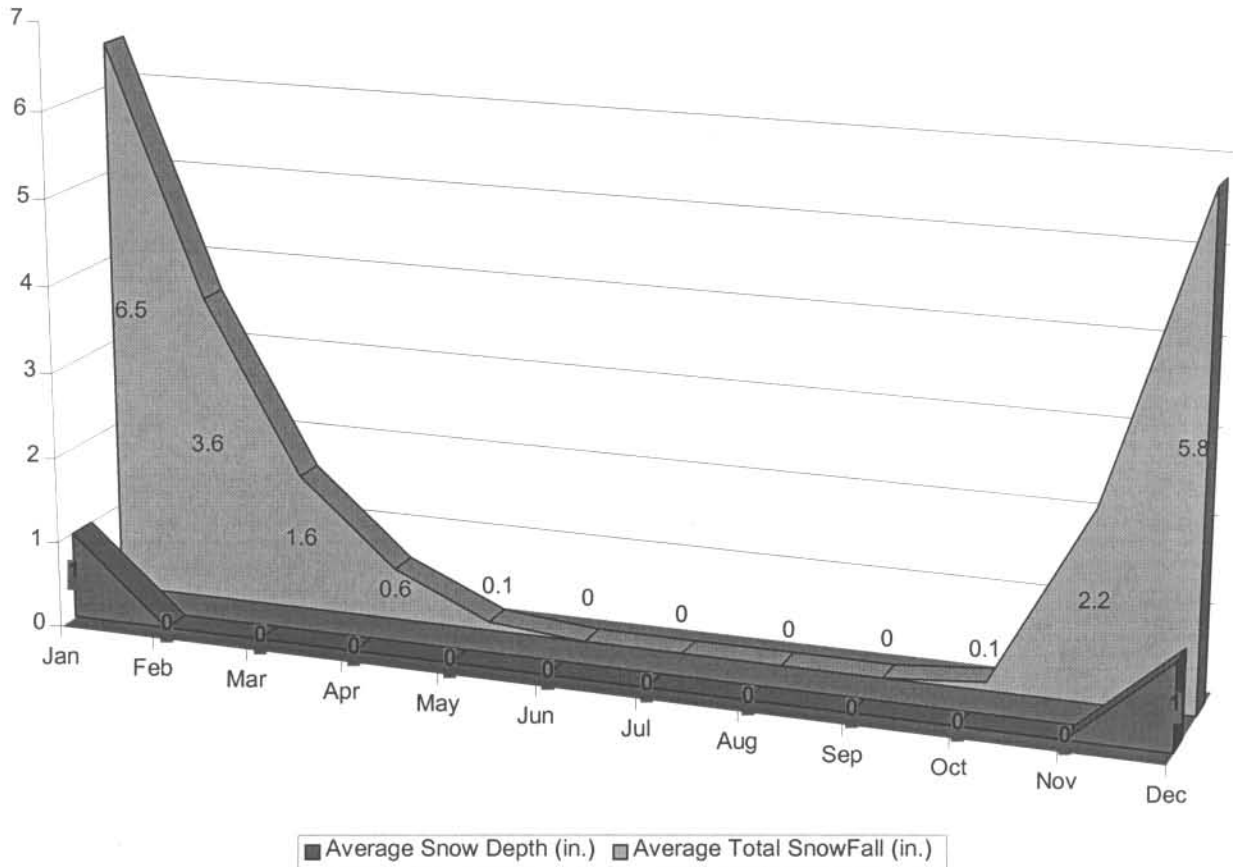


Fig. 3.3

temperatures. There is an occasional, but moderate, dust storm during the warmer months, usually occurring at times of cold frontal passage.

Summary

The lower Boise River Valley experiences moderate weather throughout the entire year. The weather patterns encourage outdoor recreation year-round. The winters are relatively mild, interrupted by an occasional snowfall. In February and March there are days warm enough for outdoor activities. In spring, light rain frequently will interrupt the generally sunny days and cool nights. Summers are sunny and warm with occasional hot spells and very little precipitation. Although summer days may be quite

warm, the evenings are cool and pleasant – perfect for outdoor activities. Fall is mild with more precipitation than the dry summer season.

Specifically, Eagle Island's dry continental climate is more moderate than might be expected because of its valley location. Winter storms often cover the nearby mountains with snow but bring only rain to the valley. Winter maximum temperatures range from the upper 30s to the upper 40s with nighttime lows in the mid 20s to near 30 degrees. In the summer, clear skies often result in daytime highs in the 90s with overnight lows in the 50s. The lower Boise River Valley receives approximately 12 inches of precipitation annually, with most of the precipitation falling between November and May.



The area receives an average of 21 inches of snow, usually coming in small amounts, which do not leave a snow cover for more than a few days.

REGIONAL GEOLOGY

Ada County lies in two major geomorphic provinces. The northeastern part of the county is in the Idaho Batholith subdivision of the Northern Rocky Mountain province. The rest of the county is in the Malheur-Boise Basin section of the High Lava Plains sub-province of the Columbia Intermontane province. Eagle Island State Park is situated near the boundary of these two geomorphic provinces, with the Lower Boise River Valley lying on the Columbia Intermontane province. The Northern Rocky Mountain Province, which includes the granitic rocks of the Idaho Batholith, abuts the Snake River Plain two or three miles north of the park site. At the plain's margin, the granites of the Idaho Batholith and the rocks associated with them rise to form the foothills known as the Boise Front. The volcanic rocks and sediments of the Snake River Plain were down-faulted 9000 feet relative to the mountain massif of the Northern Rocky Mountains.

The geology of the Lower Boise River Valley is the result of the combined processes of erosion, deposition and faulting action. The surface geology of the park site is typical of river flood plains. The subsurface geology consists of approximately 2000 feet of unconsolidated lakebeds and stream deposits overlying the down-faulted granitic rocks of the Idaho Batholith. Terrace gravels deposited by the Boise River after the present drainage pattern was established

overlie these lake and stream deposits. Most of Eagle Island State Park is within the defined boundaries of the Broadway Terrace, known as a prime source of sand and gravel (USDA, 1980).

WILDLIFE

Riparian communities are extremely important for fish and wildlife because they generally have a much higher density and diversity of wildlife than that of the surrounding vegetation communities. This is especially true in desert or agricultural ecosystems (Sather-Blair, et al., 1983). The variety of wetlands and other habitats within the Boise River riparian plant community is important to fish and wildlife. Very few animals use only one habitat type to fulfill their needs of food, shelter, water, and a place to reproduce. In addition, the interspersing of the different habitat types within the Boise River riparian community results in an "edge effect." Thus, there is a propensity for higher wildlife diversity and density near the junction of vegetation communities or habitat types (Odum, 1971).

Riparian communities are extremely important for fish and wildlife because they generally have a much higher density and diversity of wildlife.

A number of small emergent wetlands are scattered across the park. These wetlands, commonly called marshes or cattail tules, have resulted, in part, from the high groundwater levels and irrigation canals and drainage ditches. Waterfowl use these wetlands as brooding areas because of the dense vegetative cover and the availability of insects. Many shorebirds and non-game birds forage in these wetlands, including great blue heron, black-crowned night heron, American avocet, sora, Virginia rail, yellow-headed and red-winged blackbirds, marsh wrens, and others. Ring-necked pheasants

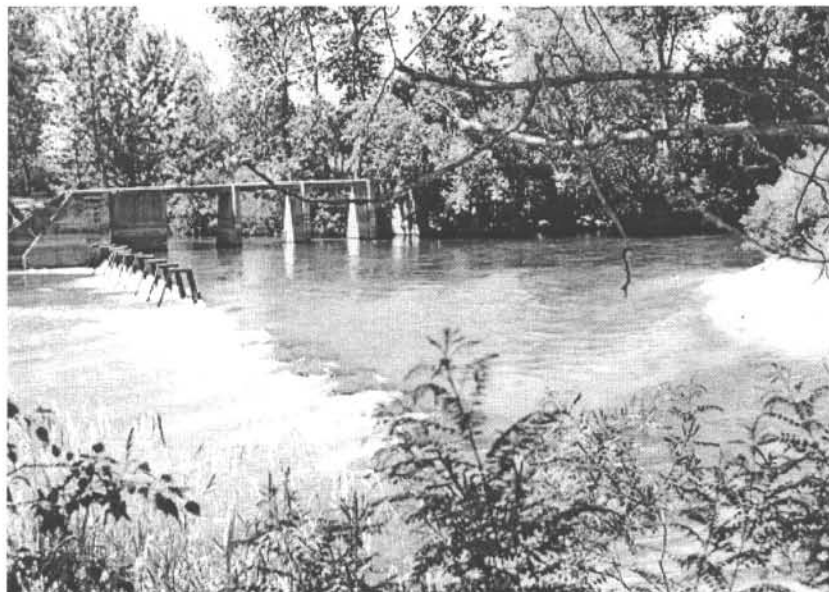


use these areas for refuge during the cold winter months. Muskrats eat cattail and bulrush tubers and can become quite numerous. Mink are often found in close proximity to emergent wetlands, especially if their favorite food, the muskrat, inhabits the area. Raccoons, foxes, and coyotes hunt around the edge of emergent wetlands for their prey. Lesser known small mammals, such as vagrant and water shrews, also inhabit these wetlands (Sather-Blair, et al., 1983).

Along the Boise River, forested wetlands with an understory of shrubs, grasses and forbs provide suitable habitat for many wildlife species, because of the many different nesting, foraging, and roosting sites provided by the diverse vegetation. Common year-long avian residents include the black-billed magpie, red-tailed hawk, California quail, northern flicker, black-capped chickadee, and American robin. Many migrating and wintering birds also use these forested wetlands. Several species of warblers, vireos, flycatchers, hawks, and owls forage in these areas. Bald eagles, kingfishers, and ospreys perch and roost in mature trees along the river banks, watching for fish. About 40 species of birds nest in forested wetlands along the Boise River (Sather-Blair, et al., 1983), many undoubtedly in the vicinity of Eagle Island State Park. A number of mammals also use the forested wetlands along the river. Beavers use cottonwood and willows for food. Long-tailed weasels and striped skunks search out prey in the underbrush. Raccoons may find den sites under fallen logs or in dead trees. Both mule deer and white-tailed deer can be found in the forested wetlands along the Boise River throughout the year.

Both the north and south channels of the Boise River in the vicinity of Eagle Island offer good nesting habitat for waterfowl. Canada geese, mallards, wood ducks, and other species are known to nest successfully in this area.

Park rangers indicate that wildlife is frequently and readily observed throughout much of the park. The great variety of birds that use the park constitute the majority of these sightings. Some of the more frequently observed wildlife species include osprey; great blue herons; waterfowl, including Canada geese, mallards, and green-winged teal; upland game birds, including ring-necked pheasants and California quail; marsh



Diversion on the north channel of the Boise River.

hawks; American kestrels; raccoons; skunks; beaver; mule deer and white-tailed deer. Other species seen perhaps less frequently are cinnamon teal, fox, coyotes, harlequin ducks, barn owls, and marmots.

Three major species of cold water game fish are found in the Boise River: rainbow trout, brown trout, and mountain whitefish. Numerous other fish species also inhabit the river, but from a recreation standpoint, these



three species account for the greatest amount of fishing effort and catch. The habitat requirements for these three fish are similar. Generally, optimal stream habitat is characterized by clear, cold water; a silt-free rocky substrate in riffle-run areas; a nearly equal number of pools and riffles; well-vegetated stream banks; abundant instream cover; and relatively stable water flow, temperature regimes and stream banks. The north channel of the Boise River in the vicinity of Eagle Island State Park contains excellent fish habitat. There is good instream habitat diversity, and side channels, islands, and gravel bars provide spawning and rearing habitat. Dense stream bank vegetation provides shading and cover. The south channel is also excellent fish habitat. There is a good ratio



Pasture access road from the south channel of the Boise River.

of pools and riffles and fewer adverse effects from development. This channel is relatively narrow with overhanging vegetation on the banks. Access is generally poor, so fishing pressure is less than that on the north channel. There are many small side channels ideal for fish rearing (Sather-Blair, et al., 1983).



TOPOGRAPHY AND PHYSIOGRAPHY

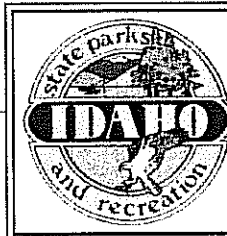
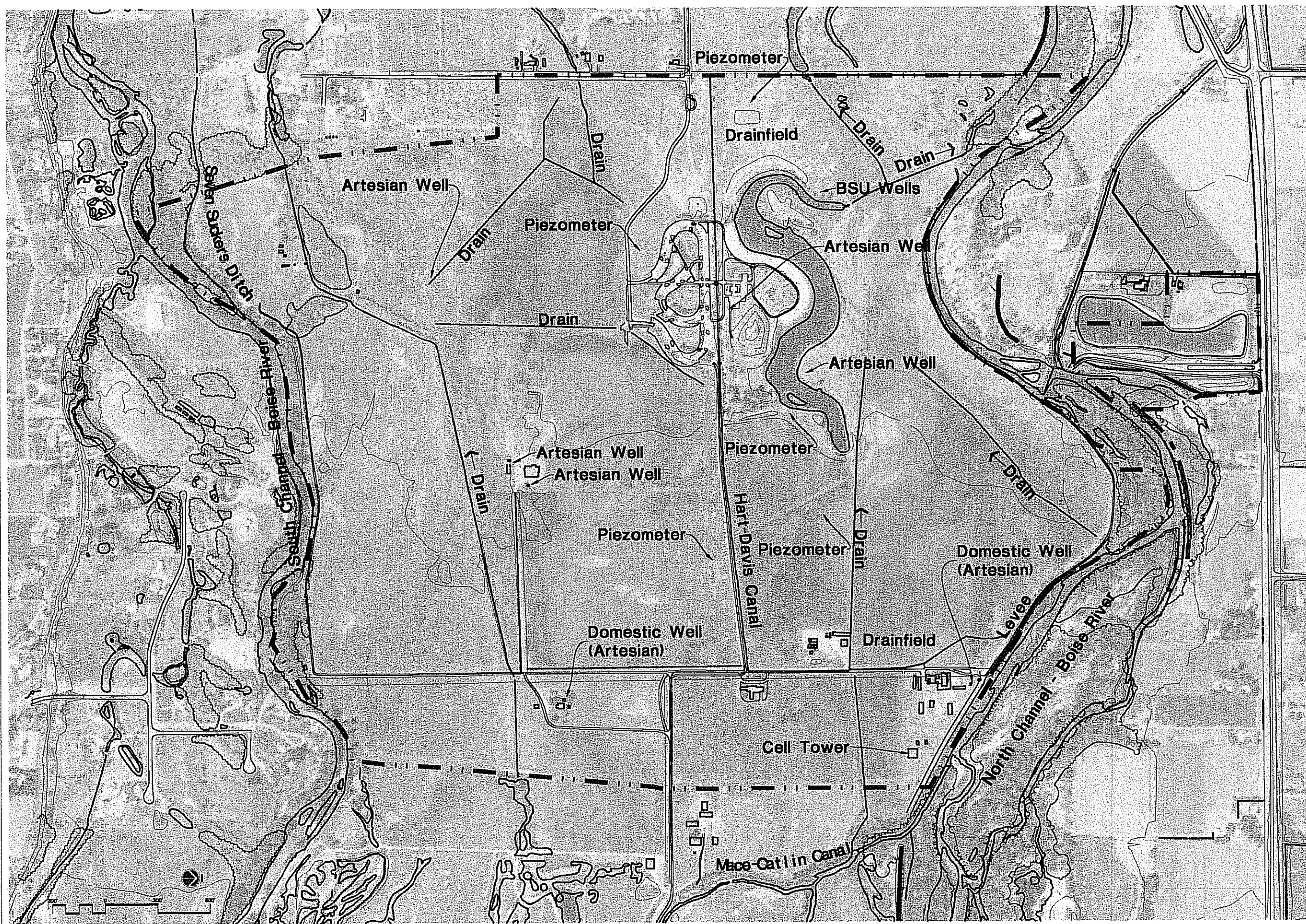
The topography of Ada County is diverse. It includes the deep canyon of the Snake River; an extensive lava plain with scattered basalt domes and cinder cones; the valley of the Boise River with its low to moderate gradient; and three major alluvial terraces and the hills and mountains of the Boise Front. Local relief ranges from nearly level on the plain and in the river valley to very steep in the canyon and mountain areas. The elevation ranges from 2,260 feet at the Snake River to 5,750 feet at the Boise Front.

Most of the county drains into the Boise River, which drains into the Snake River. The southern part of the county drains directly into the Snake River.

The Boise River

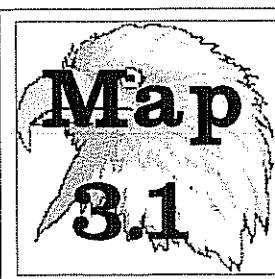
The Boise River has a drainage area of 4,134 square miles, of which 3,000 square miles are above the park site. Elevations range from about 2,520 feet in the riverbed at the southwest end of the park to over 10,000 feet in the mountainous headwaters. Gradients in the river near Eagle Island State Park are about 10 feet per mile, which is an adequate slope for strong channel flow. Most summer flows are ten feet per second; flood flows are considerably faster.

Although reservoirs regulate the flow of the Boise River, irrigation plays a significant role in determining the flow. Irrigation demands regulate the flow by retaining some of the flow and subsequently causing a reduction of as much as 3,600 cfs between Lucky Peak Dam and Glenwood Bridge. The irrigation diversions are engaged in early April and end in mid-October. The flow below Glenwood Bridge is maintained around 1,100 cfs during this period to accommodate downstream irrigation. Because of this, the flow at Eagle Island State Park is

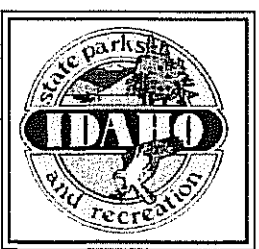
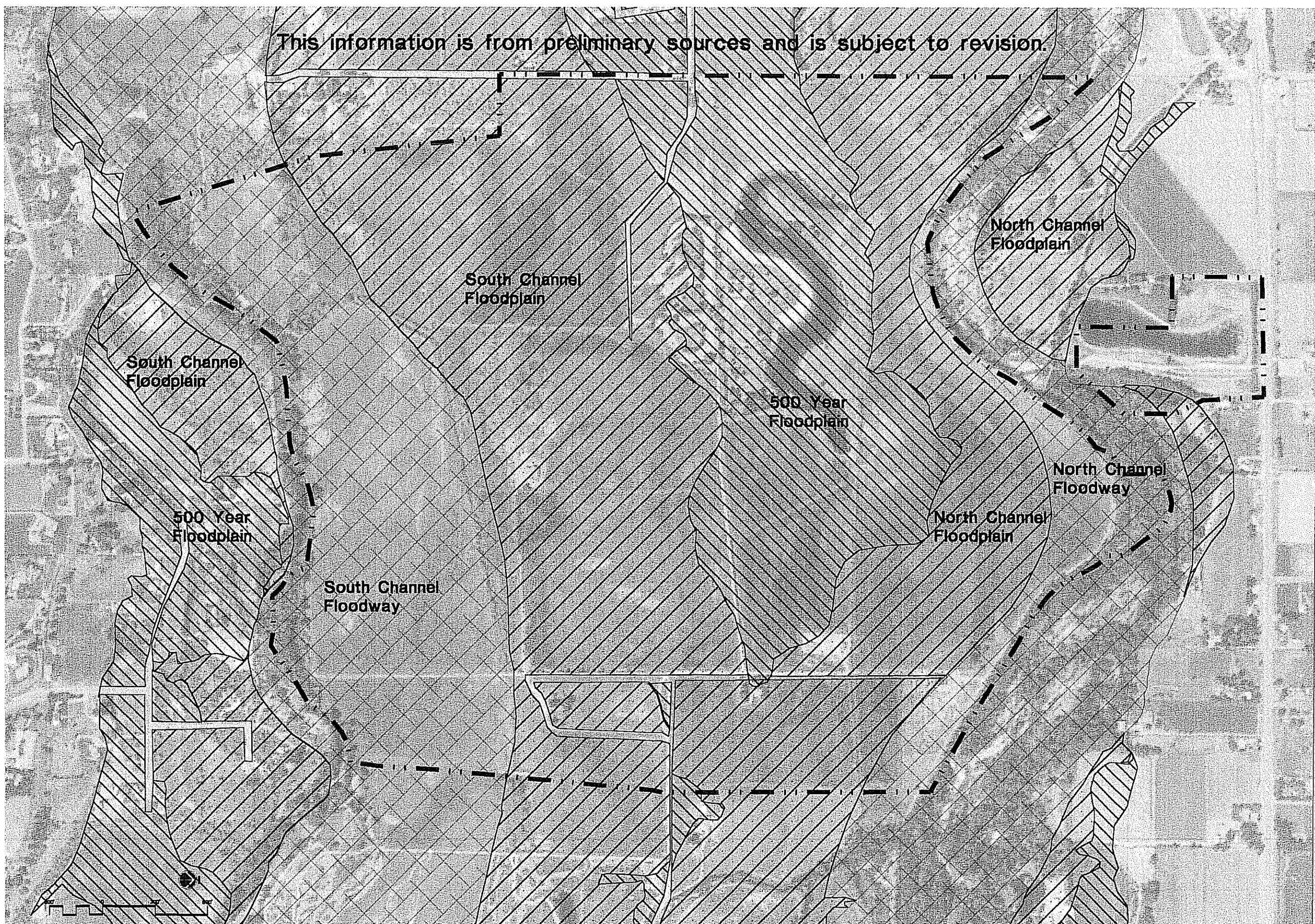


TOPOGRAPHY AND PHYSIOGRAPHY EAGLE ISLAND STATE PARK

NOVEMBER, 2000



This information is from preliminary sources and is subject to revision.



FLOODPLAIN - FLOODWAY MAP EAGLE ISLAND STATE PARK

NOVEMBER, 2000



seldom below 1,000 cfs during summer months.

The Boise River splits at the eastern end of Eagle Island and subsequently forms the south and north boundaries of the park. Eagle Island State Park is about four miles west of the upstream end of the island and about a mile east of the downstream end of the island.

Sandbars have been deposited in the river and in some places the riverbed has been split into two or more channels. The lateral migration of the Boise River has created meanders and constantly eroded and deposited material as the river moved across its floodplain. The Boise River, in its natural state, maintained a constant channel width, yet by migrating laterally, formed a fairly broad floodplain.

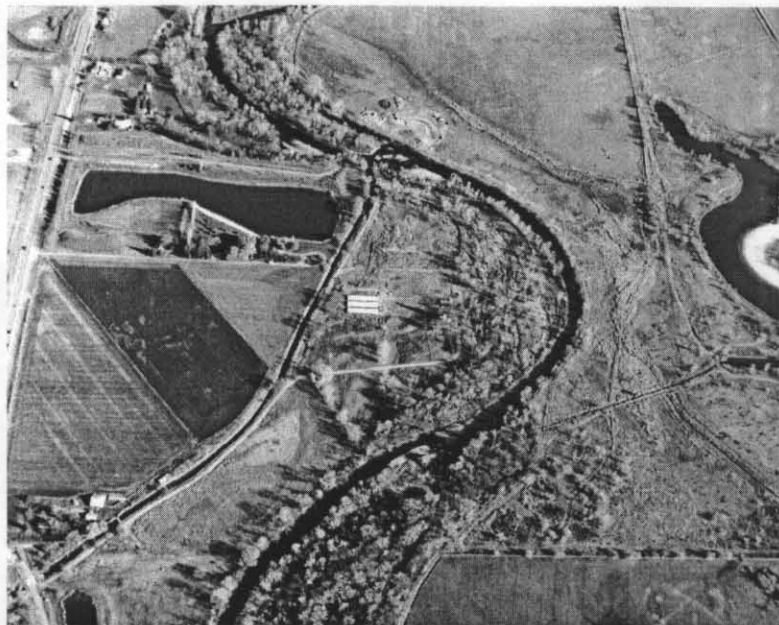
Because of the heavy influence the river has on the island, the topography of the site is relatively flat, the notable exception being the hills created for the water slide and swimming area. The high point on the site is the top of the water slide at 2562 feet, and the low spot is at the southwestern corner of the site at 2520 feet. The elevation at the eastern end of the site is approximately 2540 feet. Thus the elevation drops in a westerly direction a total of 20 feet over the length of the park with an average slope of less than one percent. See Map 3.1.

The only other changes in elevation in the site are man-made structures such as along the northern channel where levees have been built. The levees rise approximately eight feet above the river, providing protection from most flood events.

Boise River Floodplain/Floodway

Map 3.2 shows that most of the site is within the Boise River's floodway or 100 year floodplain. However, the potential flooding hazard to Eagle Island State Park has been greatly reduced by the modifica-

tion of the natural flow of the Boise River. Three reservoirs up stream regulate river flow to reduce peak floods and to lengthen the spring high water season, reducing the flood hazard. The highest recorded flood was in June 1896 with estimated flows of 35,500 cubic feet per second (cfs). The highest recorded flow at the Glenwood Bridge upriver from Eagle Island State Park was approximately 21,000 cfs on April 20, 1943. A flood in June 1983, after Lucky Peak Dam (the last of the upriver dams) was built, was recorded at 9,840 cfs. The U.S. Army Corps of Engineers estimated that the flow without Lucky Peak Dam would have been 24,294 cfs.



An aerial view of the north channel of the Boise River from west to east along the park's northern boundary.

Since then, the Corps of Engineers has defined the 10-year flood as 7,200 cfs; 50-year flood as 11,000 cfs; 100-year flood as 16,600 cfs, and 500-year flood as 34,800 cfs measured at the Glenwood Bridge. The banks of the Boise River are full at 6,500 cfs. Low lying properties sustain some flooding with flows as low as 7,000 cfs. The Boise River is considered bank full when flows reach 6,500 cfs. Low lying proper-



ties sustain some flooding with flows as low as 7,000 cfs. Flows at the Glenwood Bridge have exceeded 6,500 cfs 16 times since Lucky Peak Dam was completed in 1954 (IDWR, 1999 online; USGS, 1999 online).

Since completion of the upriver dams and storage reservoirs, the typical annual flow pattern has a low flow, of 300 cfs and less during the winter, and a high flow, usually 6,500 cfs or less, in late spring and early summer.

Surface Water Ditches and Canals

An extensive system of ditches provides gravity flood irrigation and drainage for most of the site. The source of water is the Mace-Catlin Canal, east of the park, which in turn is fed by a diversion from the Boise River. The park property is reported to have a water right of 340 inches or 6.8 cfs in the Mace-Catlin Canal.

A small irrigation ditch enters the property on the southeastern corner, a second small ditch enters the property along the extension of Mace Road at the east center of the site. These ditches will have to be maintained, with water carried to a waste ditch if it is not used on the property.

The Hart-Davis Canal (diverted from the Mace-Catlin Canal) enters the property on the northeastern corner of the park, and exits at the west center, after serving various turn-outs on the property. It must be maintained to carry its present capacity of about 7 cfs through the property.

A third ditch, Seven Suckers Ditch, is diverted from the Boise River in the southwestern corner of the site. It serves the state fish hatchery and other downstream users and must be maintained as it passes through the site.

Existing drain ditches, which must be maintained through the property, include a major drainage running from the east center to the southwestern corner and a smaller

drain beginning on the property and exiting at the west center of the property through a culvert under Fish Hatchery Road. A third drain begins in the northeastern corner below the existing farm buildings and exits on the western side of the property.

Groundwater

The Boise River directly influences groundwater at Eagle Island and the canals located on the site. The low elevation of the island relative to the river and the permeability of the alluvial deposits foster a high water table. This water table generally ranges from one to five feet below the soil surface. In general, the groundwater fluctuates seasonally with a high in the summer and low in the winter. The groundwater level is monitored at several piezometers throughout the site.

Artesian wells are located in several places within the park. See Map 3.1.

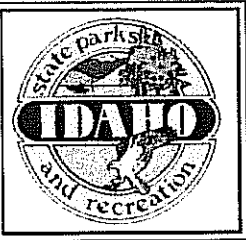
SOILS

The soils of Eagle Island State Park are characteristic of floodplains and range from river cobbles and gravel to deeper, generally poorly drained soils which have developed from the deposits of flooding and channel movement. The information and mapping is from the 1980 Soil Survey of Ada County, prepared by the U.S. Department of Agriculture, Soil Conservation Service. Soils are shown on Map 3.3. The land use potentials and limitations are from the soil survey and provide general information about the suitability of each soil type for various human activities.

Land Use Potentials and Limitations

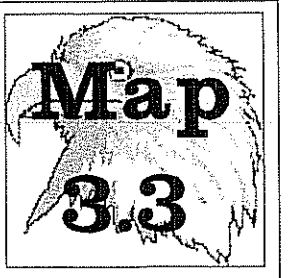
Shallow groundwater is the major limitation to most potential uses of the park, including agricultural and ornamental plantings. The high water table hinders the growth of some deep-rooted plant species.





SOIL CLASSIFICATION MAP
EAGLE ISLAND STATE PARK

NOVEMBER, 2000



Soil Types on Eagle Island

Map Symbol	Soil Type	Slope	Description
8	Bissell loam.	0 to 2%	This soil is very deep and well drained. The main limitations to building development are due to shrink-swell potential and moderately slow permeability. Few restrictions to recreational development. Good wildlife habitat.
25	Chance fine sandy loam.	0 to 2%.	This soil is very deep and very poorly drained. It formed in recent alluvium in old river channels and in depressions on the floodplain of the Boise River. A high water table and flooding are limiting to development. Severe restrictions to recreational development due to flooding. Poor to good wildlife habitat.
55	Falk fine sandy loam.	0 to 2%	This soil is very deep and somewhat poorly drained. It formed in recent alluvium on low terraces along the Boise River. The use of this soil for building development is limited due to flooding and high water table. Some restrictions to recreational development due to flooding. Good wildlife habitat.
111	Moulton fine sandy loam.	0 to 2%	This soil is deep and poorly drained. It formed in recent alluvium on low terraces along the Boise River. The use of this soil for building development is limited due to flooding, frost action and high water table. Moderate restrictions to recreational development due to flooding and wetness. Fair to good wildlife habitat.
112	Notus soils	0 to 3%	This map unit consists of very deep, somewhat poorly drained soils on flood plains and low terraces along the Boise River. This unit is mostly a combination of Notus sandy loam and Notus gravelly loamy coarse sand. Flooding from March to May limits the use of these soils for building development. Moderate restrictions to recreational development due to flooding. Fair to good wildlife habitat.
157	Riverwash		Riverwash consists of un-stabilized sand, silty, clayey, or gravelly sediments that are flooded and washed and reworked by rivers so frequently that they support little or no vegetation. Riverwash is not suitable for development due to frequent flooding. Flooding also limits suitability for wildlife habitat.

Table 3.2



The use of these soils for residential or urban development is limited by wetness, the hazards of flooding from March through May, frost action, and sandy texture. The high water table affects buildings with basements unless drainage is provided.

The use of septic tank absorption fields is severely limited by the seasonal high water table. If effluent is discharged into the water table, particularly in high-density residential areas, contamination of nearby water supplies is a hazard.

The seasonal high water table hampers digging and trenching. It may be necessary to use pumps at excavation sites in summer. Cut-banks may collapse if excavations extend into the coarse textured alluvium.

The hazard of frost action and flooding limits the construction of roads, driveways and other paved surfaces. Suitable subgrade material can help offset this limitation.

The soils are limited as a resource for construction materials. Individual soil types should be investigated prior to utilizing as construction materials. However, the site is generally considered good for aggregate extraction activities. Neighboring sites have been, or are presently being, mined for aggregates.

Development of ponds, dikes and levees on the site must take under consideration the seepage characteristics of the soils. Development of grassed waterways is generally favorable.

Other than the potential for flooding, the limitations of these soils for recreational development are generally slight to moderate. Careful placement of recreational developments such as campgrounds, picnic areas, playgrounds, paths and trails on the Eagle Island State Park site will avoid some of the limitations due to flooding and wet soils. Generally, the potential for wildlife habitat on the park property ranges from fair to good. The major exception is a poor rating

for woodland wildlife habitat. The potential is highest for wetland wildlife habitat. The potential for the various habitat elements, grain and seed crops, grasses and legumes, shrubs, wetland plants, etc., generally ranges from fair to good. The major exception is a poor rating for coniferous plants due to the high water table.

VEGETATION

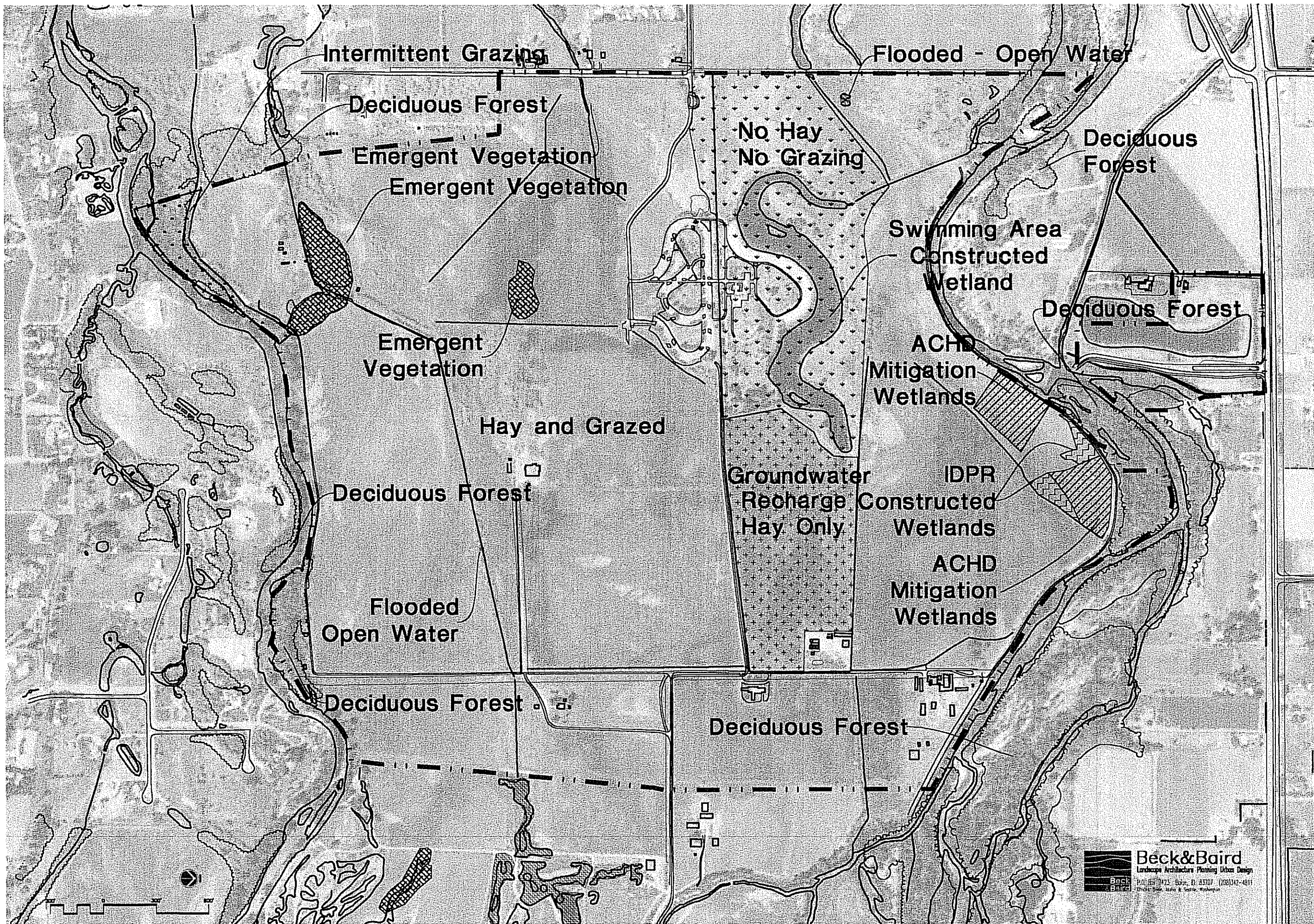
The vegetation of Eagle Island State Park can generally be divided into two broadly defined plant communities: agricultural and riparian. See Map 3.4 for a description of upland and wetland vegetation. Additionally, a portion of the developed swimming/picnicking area consists of lawn grass, ornamental shrubs, and ornamental and shade trees. This vegetation was planted in conjunction with the development of the swimming/picnicking area and is maintained by the park staff. The agricultural and riparian plant communities are described below.

Agricultural Plant Community

Currently, the majority of the park's land area is composed of an agricultural plant community, almost all of which consists of cultivated pasture grasses. This grass is used for hay production and for domestic livestock grazing in the fall.

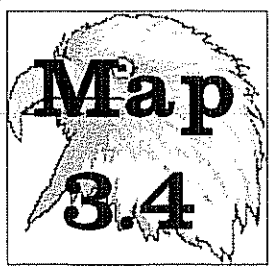
The area occupied by the existing agricultural community has been substantially altered from its native condition, which probably consisted of a riparian community similar to that which is now generally limited to the area immediately adjacent to the Boise River channels. In addition to clearing of native vegetation, alterations over the years have included construction of irrigation canals and drainage ditches. Irrigation on the island and on other nearby fields has contributed to elevated groundwater levels in the area. As a result, numerous small areas within the agri-





UPLAND AND WETLAND VEGETATION EAGLE ISLAND STATE PARK

NOVEMBER, 2000



cultural community are seasonally or semi-permanently flooded. Commonly called marshes or cattail tules, these are emergent wetlands with some areas of open water. The vegetation in this wetland type is present for most of the growing season during most years. Perennial grass-like plants are usually the major vegetation. This includes such plants as cattails, bulrushes, sedges, and slough grass.

Shrub hedgerows are found along many of the park's fences and other pasture boundaries. In addition, scattered shrubs and a few trees have become established in areas that are often too wet to regularly cultivate. These areas provide an important source of food and cover for many of the island's wildlife, especially birds.

Boise River Riparian Plant Community

The Boise River riparian plant community includes all wetlands that are present in and adjacent to the Boise River and adjoining upland areas that support facultative vegetation often associated with wetlands. As shown on Map 3.4, wetlands within this plant community include flooded or open water, floating vegetation, deciduous forest, and emergent types. Most of this riparian community lies within the Boise River floodway and can generally be recognized by the dominant black cottonwood trees.

All the forested wetlands along the Boise River are dominated by deciduous trees. These areas are subject to seasonal flooding during spring run-off periods. Although black cottonwood is the most common dominant tree in this community, others include willows and silver maple. Understory tree and shrub species associated with this wetland type include wild rose, false indigo, black hawthorn, white alder, currant, box elder, and Russian olive.

In addition to the naturally occurring

wetlands within the Boise River riparian plant community, constructed habitats, designed as compensation for impacts to wetlands from other projects, are located adjacent to the river in the north central portion of Eagle Island State Park. These include:

- a 1-acre wetland site created by Ada County Highway District in 1994 as mitigation for the Linder Road bridge construction,
- a 1-acre riparian site (cottonwood nursery) created for IDPR as mitigation for future construction of a new bridge to the park, and
- a 0.6-acre wetland site proposed by ACHD and currently under construction as mitigation for the proposed west Park Center Boulevard bridge.

As shown in Map 3.4, these constructed wetlands are contiguous with and designed to ultimately expand the Boise River riparian plant community and habitat. When successfully established, these wetlands will contain forest, scrub-shrub, and emergent wetland vegetation.

ISSUES OF SPECIAL CONCERN Threatened, Endangered, or Rare Species

Over-wintering populations of bald eagles, a Federally listed endangered species, are an annual visitor to the Boise River. Wintering bald eagles have three main requirements: (1) an abundant food supply, composed largely of fish; (2) suitable foraging habitat with adequate perch trees, and (3) protected night roost areas with the largest trees (perhaps located some distance from foraging areas). A study of the area (Kaltenecker, 1994) identified one bald eagle perch site on Eagle Island. This is a small cottonwood stand on the Boise River near the Eagle fish hatchery. During the course of the study, this perch site was found



to be used less frequently than other nearby perch sites. The nearest documented perch site upstream of the Eagle fish hatchery perch site is located near the Boise sewer treatment plant, approximately two and a half river miles upstream. Downstream, the nearest perch site is located near the confluence of the north and south channels, approximately one river mile downstream. No actively used bald eagle nests are known to exist in the vicinity of Eagle Island State Park. Park personnel indicate that bald eagles are infrequent visitors to the park.

Noxious Weeds

All portions of the park are subject to invasion by non-native weedy plant species. In general, however, agricultural practices used in the production of hay minimize noxious weeds in the park's agricultural plant community. These practices include seeding with pasture grasses, regular irrigation during the growing season, fertilization, and occasional application of herbicides.

Park personnel indicate that attempted control of noxious weeds in the non-agricultural portions of the park is an annual concern. Common weeds that can be found in the park include purple loosestrife, rush skeleton weed, poison hemlock, and bull musk and Canadian thistles. In addition, Eurasian millfoil is found in the lake. Control measures have included spot treatment with herbicides, burning, uprooting of thistles, the release of beetles for attempted biological control of purple loosestrife, and the release of a breed of carp that feeds on Eurasian millfoil in the lake. Weed control is usually successful on a localized basis, but continued monitoring and treatments are

necessary to be effective.

Potential Geologic Hazards

Potential geologic hazards at the site are flooding, earthquakes, weak foundation materials, differential settling, swelling of clays and hydro-compaction.

Park personnel indicate that bald eagles are infrequent visitors to the park.

The fault zone, which parallels the Boise Front, is approximately two

miles from the site. Earthquake damage is related to the geologic formation underlying the surface as well as the energy released by the earthquake. Many investigations of earthquake damage have shown that the effects of the shock waves are greater in loose unconsolidated water-saturated sediments such as the deposits that underlie the floodplain of Eagle Island.

Landslides and slumping are not a problem in the park except where slopes have been steepened by man's activities. On steep slopes, the loose unconsolidated sediments do not stand well and move down-slope by gravity until a stable angle of repose is achieved.

Hydrology

Eagle Island State Park, due to its physical location, is a water-oriented park. Existing and potential park activities are affected by the proximity to the river channels and location in the floodway and/or floodplain of the Boise River. Flooding, high water table and saturated soils are the primary constraints to building and construction on the site. These same conditions constitute the primary opportunities the site presents.

Flooding

Because Eagle Island State Park is located in the floodway and 100 year flood-



plain, structures must receive a floodplain certificate from the Ada County Engineer prior to receiving a building permit. The certificate requires the Ada County Engineer to set the minimum elevation of the lowest floor of the structure according to Federal Emergency Management Agency maps and methods.

The potential flooding hazard to Eagle Island State Park has been greatly reduced by the modification of the natural flow of the Boise River. Since completion of the upriver storage system, the typical annual flow pattern has a low flow, usually 300 cfs or less, during the winter months and a high flow, usually 6,500 cfs or less, in late spring and early summer. Late winter high flow periods occur when excess water is released from the reservoirs to make room for the spring snow runoff. Winter runoff is stored until the required flood control storage capacity is determined and then the excess is released; as a result, winter periods of high flow generally have been eliminated.

Siting of structures and activities can further minimize the flooding threat to property, health and safety of park visitors and employees.

Water Quality

Water quality of the lower Boise River, from the City of Boise to its confluence with the Snake River, does not meet state water quality standards. Consequently, regulations are being developed under the Clean Water Act Total Maximum Daily Load (TMDL) process, which set limits on the quantities of certain pollutants that may enter the river. In early 2000, the TMDLs for sediment and bacteria are awaiting final approval from the Environmental Protection Agency.

The types of development that may occur at Eagle Island State Park could have water quality implications. Development that increases storm water run off, or which in-

crease potential bacterial sources, such as septic drain fields, will need to be planned to meet the TMDL standards. Work is continuing to develop TMDLs for other pollutants and to determine where nonpoint source pollutants are entering the river. (Horsburgh, 1999.)

Water quality within the park has been an issue in the past. Fecal coliform bacterial contamination of the water in the lake in 1985 resulted in the lake being closed to swimming. An investigation (CH2M Hill, 1986) found that the lake is directly influenced by the shallow unconfined aquifer.



Aerial view of the Boise River.

The shallow aquifer is directly affected by irrigation water, Boise River water and by land management practices east of the lake. Waterfowl congregating in the eastern end of the lake were found to be a source of bacterial contamination.

The land area east of the lake serves as a primary recharge area for the surface water to enter the shallow groundwater that fills the lake. Since the results of the study became known, the area east of the lake has been managed as a recharge area and activities such as grazing, which could result in contamination, have been halted in the recharge area.

The artesian wells are from a deeper aquifer not influenced by the shallow groundwater. Water from the deeper aquifer is now pumped into the lake to aid water quality.



Water Systems and Water Rights

The irrigation ditches and drains which cross the park have legal requirements that must be met for maintenance of the ditches and delivery of water. Some flexibility exists for changing the waterways, as long as the legal rights of the ditch companies are protected.



Sandbagged section of the Boise River during high flood waters.

SCENIC INVENTORY

Due to the virtually flat topography of the site and its location in the Boise River Valley, the scenic values associated with Eagle Island State Park are generally from the neighboring properties into the park area. From the park property, there are middle ground views to the top of the bench to the south, and selected background views to the foothills to the east. However, most views out of the site are superceded by foreground views of the dense trees that line the Boise River.

Map 3.5 shows the viewpoints from within the park from which the photos in Fig. 3.4 were taken.

COMPREHENSIVE PLANS AND ORDINANCES

Ada County Comprehensive Plan (1996)

Eagle Island State Park lies wholly within the boundaries of the City of Eagle's area of

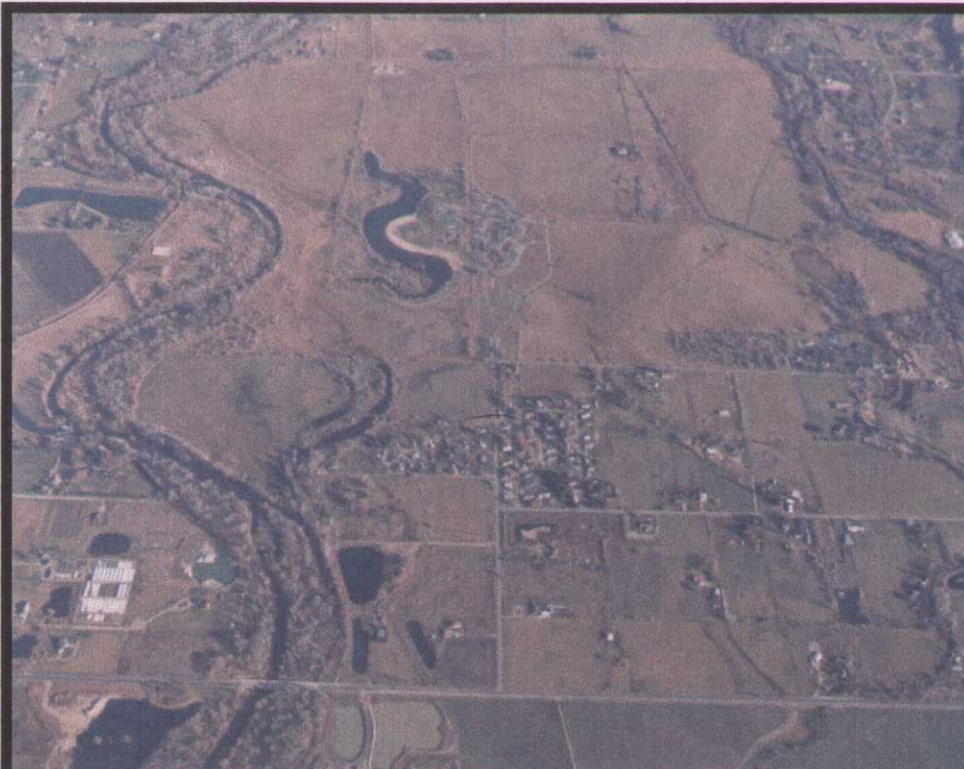
impact, but outside the city limits and therefore within Ada County, which will make land use decisions. Ada County has zoned this area RT - Rural Transitional. The Ada County Comprehensive Plan explains this zone as follows:

The purpose of this zone is to provide standards for the development of lands within areas of city impact that will be annexed by the city in the near future. Lands within this zone may not be currently served with urban services. When urban services are extended, it is appropriate to rezone RT lands to applicable urban densities and to permit development that is in accordance with the applicable City/Community Comprehensive Plan. Until such time, appropriate use of these lands includes agricultural uses and residential development of a rural character. The minimum lot size is 5 acres.

The Ada County Comprehensive Plan gives some power to the cities with Area of City Impact lands. Under the agreements between Ada County and each of the incorporated cities, new development within Areas of City Impact are subject to the following conditions.

- The comprehensive plans of each city apply to development of unincorporated areas within each respective Area of City Impact.
 - The Zoning Ordinance of Ada County applies to the unincorporated areas within Ada County.
 - Each city and Ada County review zone change requests, conditional use permits, subdivision plats, planned developments, zoning ordinance amendments, and comprehensive plan amendments within affected Areas of City Impact.
 - Subdivision ordinances of the affected city, as well as Ada County's Zoning Ordinance, apply to any and all development requests within Areas of City Impact.
- The Eagle Island Master Plan will need





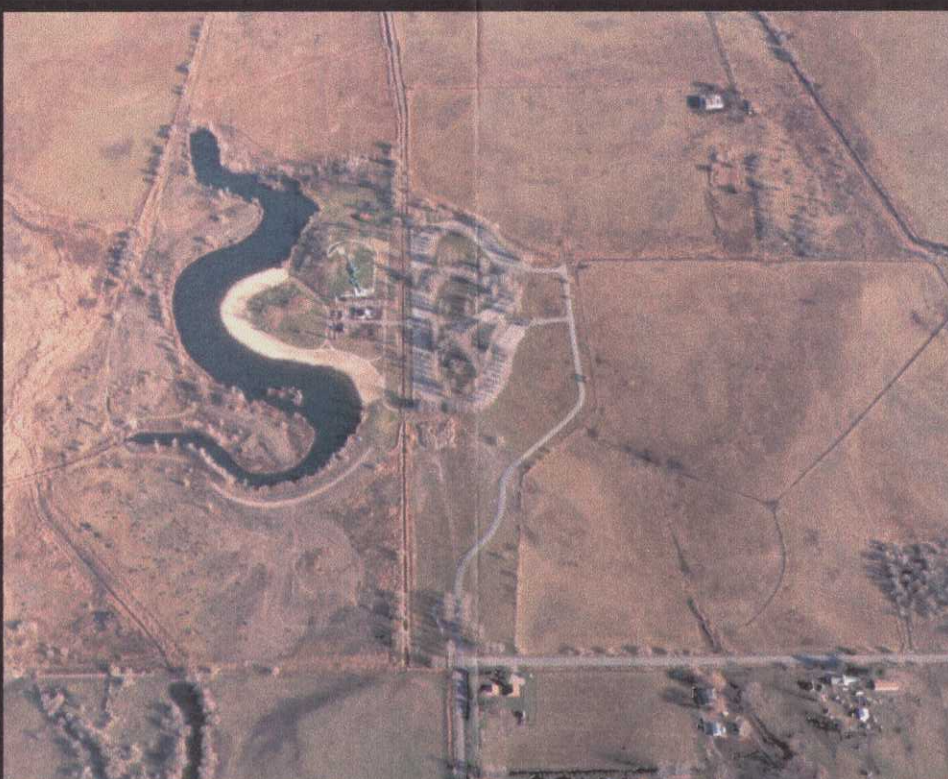
1. Oblique view looking east.



3. Oblique view looking north.



2. Oblique view of proposed entry, looking east.



4. Oblique view showing lake, park area and existing entry.



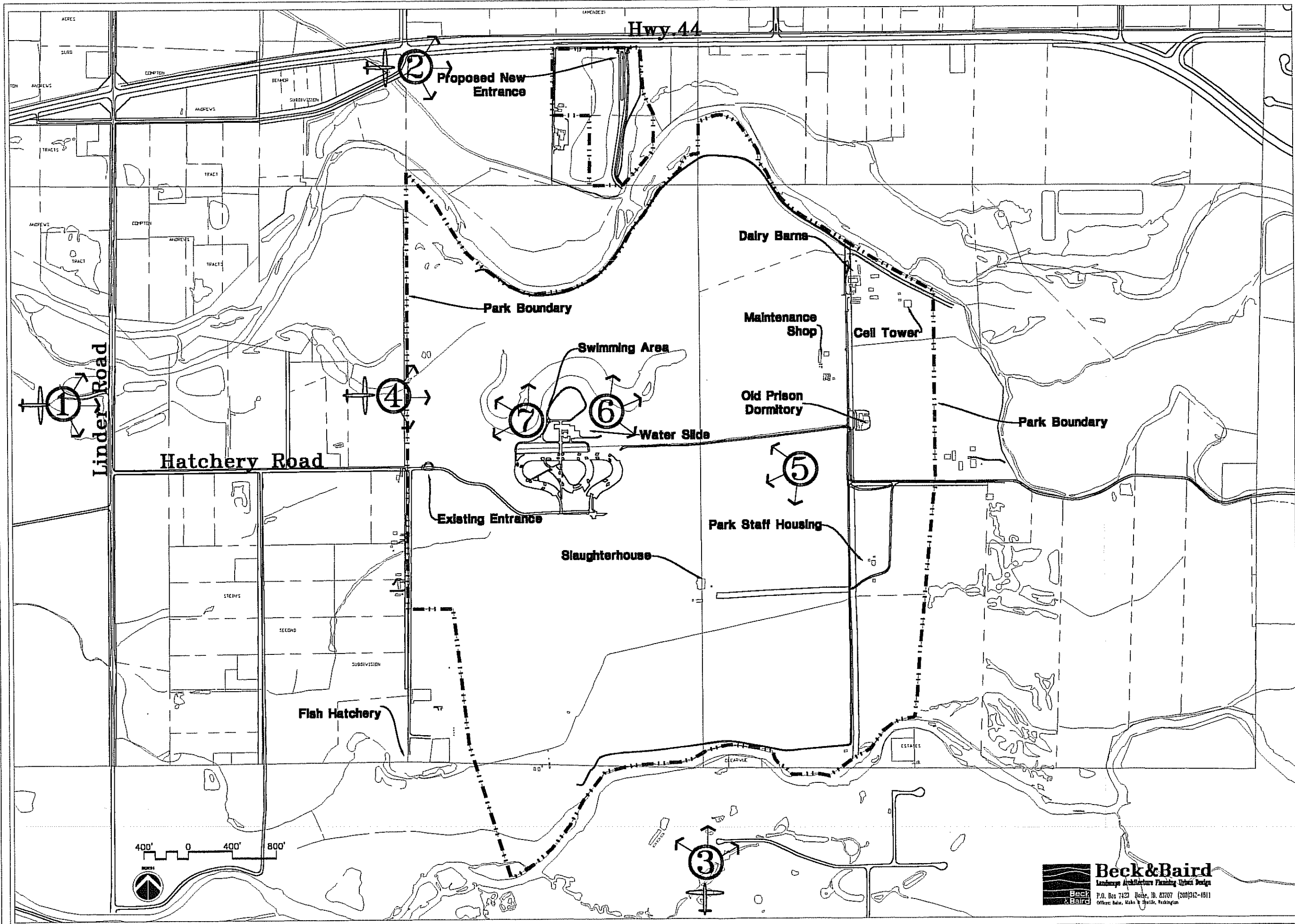
5. Looking southwest from Mace Road.



6. Looking northeast from the top of the water slide.

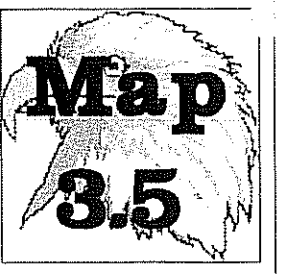


7. Looking northwest from the picnic area.



SCENIC INVENTORY EAGLE ISLAND STATE PARK

NOVEMBER, 2000



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to be approved by joint agreement of the Ada County Commission and the City of Eagle. Both comprehensive plans must be considered in future development options at Eagle Island State Park.

Parks and Recreation in the Ada County Comprehensive Plan

There is no specific mention of Eagle Island State Park in the Ada County Comprehensive Plan. The importance of maintaining public access to all creeks and rivers, including the Boise River, is cited in the plan. The need for future development of recreational facilities along the Boise River is mentioned, including the following:

The Comprehensive Plan has established a clear position supporting the importance of open space, pathways and parks in Ada County. Areas of the County suitable for new park development are **near and within the cities of Eagle, Meridian, and Kuna**, and in both the North and South ends of Ada County. Facilities that are needed include sports fields (little league football and baseball, softball), special use parks, **trails and pathways**. Open space areas also need to be preserved as growth occurs. **Additional areas that will support a wildlife preserve, bird watching area, river access for canoeists and boaters, parking, day camping, pathways, and picnic shelters should be developed at a west Boise River site for public enjoyment.** (Emphasis added)

Ada County's support of parks and recreation developments in the area of Eagle Island State Park is shown by section 9.1-4 of the Comprehensive Plan:

Support the development of a west Boise River specialty park that would include a wildlife preserve, nature trails, bird watching and limited river access for boaters.

As well as, section 9.2-5:

Promote the continuation of the Boise River Greenbelt throughout Ada County.

And section 9.3-3:

Actively encourage and pursue the preservation of natural land areas along the Boise River and in the foothills for open space and/or pathway development through both private dedication and public acquisition.

The Ada County Comprehensive Plan suggests uses that may be appropriate for Eagle Island State Park:

- Trails and pathways
- Wildlife preserve and habitat
- Bird watching area
- River access for canoeists and boaters
- Parking
- Day camping
- Picnic shelters
- Waterfront access
- Boise River Greenbelt extension

Eagle Comprehensive Plan

The City of Eagle Comprehensive Plan Update (1998) designates the property to the east of the park for half-acre residential lots. The area to the north is designated for one-acre lots; to the south and west, two-acre lots; and a small parcel at the northwest corner of the park is designated mixed use. Map 3.6 is from the Eagle Comprehensive Plan.

If this zoning scheme were extrapolated to 'build out,' Eagle Island State Park would be surrounded by residential and rural residential properties. This would leave Eagle Island State Park as the largest tract of public open space in the entire community. The City of Eagle would be a community of approximately 34,000 people (Vaughn, 1999), Meridian would be almost 60,000 (Ada Planning Association, 1999, Online). Eagle Island State Park will become an open space and recreation opportunity of great importance to the local community as well



as the region and state.

In addition to the City of Eagle's acknowledgement of the value of Eagle Island State Park to the recreational needs of the local citizens, the Eagle Comprehensive Plan Update designates Eagle Island State Park as a special area due to its ecological, historical, recreational and scenic significance. This designation places additional conditions on development beyond the normal review process.

These special areas will require comprehensive and specific planning to ensure that such topographical, hydrological, ecological, architectural and scenic concerns have been thoroughly addressed and incorporated into any engineering and development plans. The special review process should include, but not be limited to, the following:

- Area-wide drainage including hill side, foothills and gulches.
- Water quality.
- Sanitation.
- Area-wide traffic plans.
- Pathways, trail access.
- Wetlands issues.
- Fish and wildlife habitat.
- Existing trees and natural features.
- River and creek greenbelt areas.
- Potential for permanent open space and natural preserves including steep hillside terrain, rock outcroppings and foothill gulches.

In implementing the special area designation, the comprehensive plan sets up strategies, not all of which pertain to Eagle Island State Park. The following strategies do address elements that exist at Eagle Island State Park:

- Protect and improve natural and man-made waterways.
- Preserve existing trees and establish appropriate landscaping as a part of new developments.

- Encourage the preservation of habitat areas, which provide for fish and wildlife.

- The City may require developers to prepare and submit an environmental assessment and any such additional reports as the City may from time to time require, for any development on land within an area designated as a Special Area or Site or for any development impacting a designated Special Area or Site.

- Require a plan for the restoration of land which shall be made available to the Planning and Zoning Commission and City Council for each parcel of land located within a Special Area or Site that is proposed for the extraction of sand, gravel, rock, or other mineral resource.

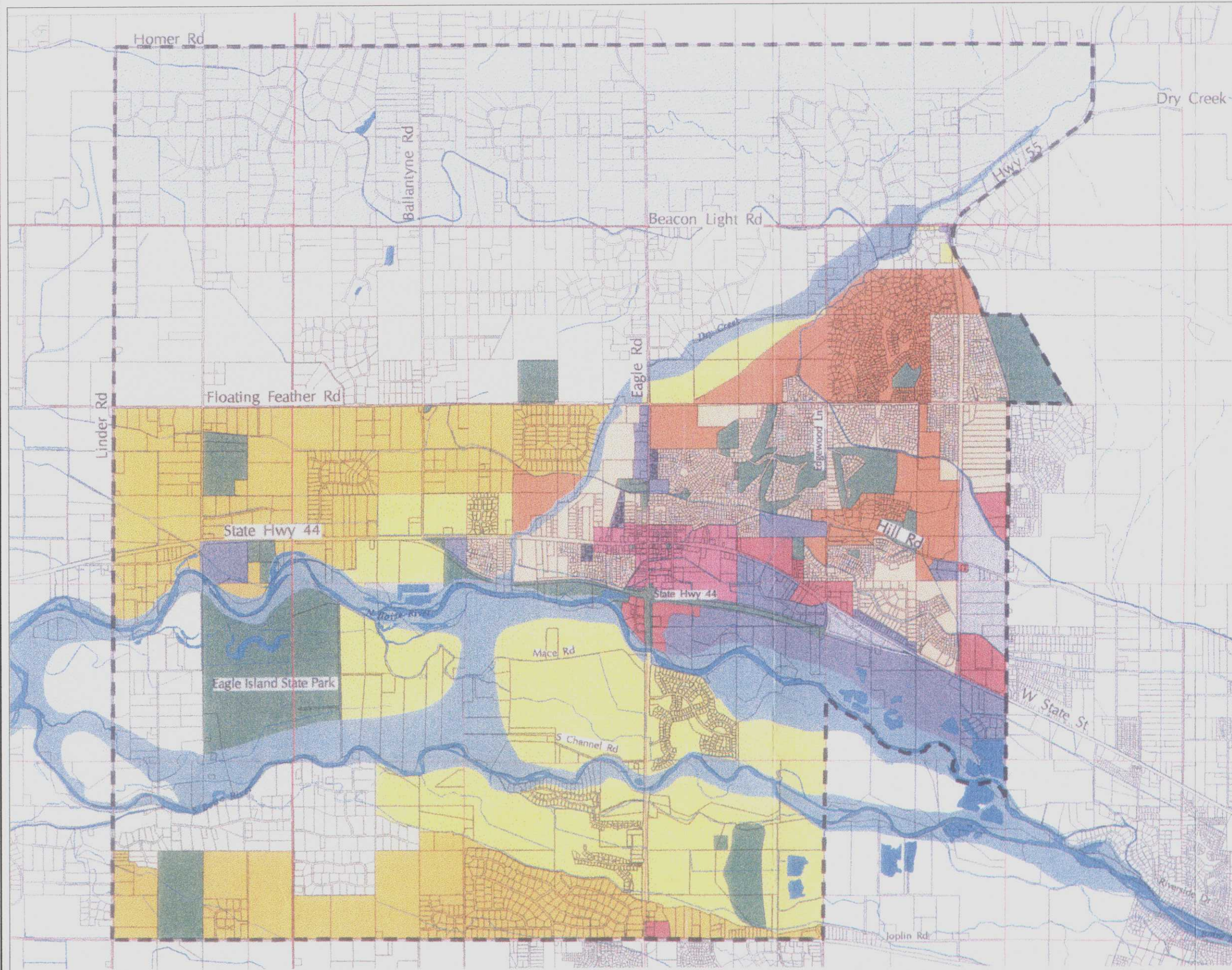
Transportation/Pathway Network

The Eagle Comprehensive Plan outlines a pathway network as part of the transportation section. This section identifies a pathway system throughout the city and environs that is to be encouraged through the development process. The map in this section of the plan identifies two potential pathway segments on Eagle Island State Park: a pathway along Highway 44 from the east entrance to State Street on the Bypass, to the proposed entrance to Eagle Island State Park on Highway 44; and a system of pathways along both shores of both channels of the Boise River throughout the planning area. This extensive network of pathways reflects an emphasis in the transportation section to providing alternative, healthful means of transportation in the community.

The Eagle Comprehensive Plan suggests the following uses for Eagle Island State Park:

- Pathways and trails.
- Fish and wildlife habitat.
- River greenbelt area.
- Preservation of natural habitat.
- Preservation of open space.





City of Eagle Land Use Map

Basemap Information: October 06, 1999
 Scale 1:31680
 1 inch to 0.5 miles



- Residential Rural
One or fewer dwelling units per five ac
- Residential Estates
One or fewer dwelling units per two ac
- Residential One
One or fewer dwelling unit per acre
- Residential Two
Two or fewer dwelling units per acre
- Residential Three
Three or fewer dwelling units per acre
- Residential Four
Four or fewer dwelling units per acre
- Mixed Use
Limited office, limited commercial,
high density residential - up to 20
dwelling units per acre
- Commercial
- Central Business District
- Business Park
- Industrial
- Public / Semi-Public
Golf course, Parks, State Park, Greenways
Schools, Fire Stations
- Floodway
- Area of Impact

NOTE:
 Areas of Impact boundary lines on this map are provided
 for convenience only and may not reflect the most recently
 negotiated boundary lines arrived at between the city of
 Eagle and Ada County. Accordingly, reference must be made
 to specific references regarding the boundary. These criteria
 are located in the office of the Eagle City Clerk.



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EAGLE COMPREHENSIVE PLAN EAGLE ISLAND STATE PARK

NOVEMBER, 2000

Map 3.6

- Protection of waterways within the park.

The Eagle Comprehensive Plan also suggests the following additional planning may be necessary for any development:

- Water quality assessments.
- Sanitation/sewer plans.
- Traffic plans.
- Wetlands reclamation and/or preservation plans.
- Open space plans.
- Fish and wildlife habitat assessment.
- Environmental assessment.
- Restoration plans.

ASSOCIATED PLANNING DOCUMENTS

Ada County Recreation Plan

Ada County Parks and Waterways Department has a strategic plan that reflects the goals of the County's Comprehensive Plan. There are no specific references to Eagle Island in this plan. However, trails and pathways and support of the Ridge to Rivers Trails program are supported by the department.

Ridge to Rivers Plan

This document (1996) lays out a plan for a trail and pathway system throughout Ada County. A bikeway along Eagle Road and a multi-use pathway along Highway 44 from Eagle Road to Ballantyne Road have been built in response to this plan. Future plans in the Eagle area include extension of the multi-use pathway along Highway 44 to the entrance to Eagle Island State Park and extension of the Boise River Greenbelt to Eagle Island State Park.

The Ridge to Rivers vision map for the Eagle Area includes pathways along the south bank of the north channel and the north bank of the south channel of the Boise River

the length of Eagle Island. This includes Eagle Island State Park.

Star Comprehensive Plan

Star is a newly incorporated community about four miles west of Eagle Island State Park. The first city comprehensive plan is in draft form at this time. Star's Area of City Impact extends just east of Highway 16, and thus does not influence Eagle Island State Park. Little mention is made of park and recreation facilities, and Eagle Island State Park is not mentioned. However, the Star Comprehensive Plan map (1999) does indicate an extension of Highway 16 crossing the Boise River and connecting with Black Cat Road and/or Ten Mile Road. This highway extension could impact Eagle Island State Park by increasing traffic and access to the park, especially if, as has been suggested in transportation studies, this highway extension is connected to I-84 west of Middleton and east of Nampa.

Meridian Comprehensive Plan

The City of Meridian lies just south of Eagle Island State Park, the northern boundary of the Meridian Area of City Impact being Chinden Boulevard. The park is outside its Area of City Impact, and the Meridian Comprehensive Plan does not specifically address Eagle Island State Park. However, in the future pathways map, Linder Road is identified as a bikeway route, the assumption being that this bikeway would be extended to Highway 44.

Canyon County Comprehensive Plan

Canyon County borders Ada County to the west and includes the Boise River as it flows into the Snake River. It is this riverine connection that relates the Canyon County Comprehensive Plan to Eagle Island State Park. The Canyon County Comprehensive Plan identifies the Boise River through all of



Canyon County as part of Category 2 Special Areas.

The Comprehensive Plan addresses the need to protect the river into the future and to maximize its use. As such, adequate setbacks for structures along the river should include the development ordinances of the county. The plan also proposes that the river be part of the Canyon County Greenway System...

In addition to the water, waterway and greenway areas of the plan, future pathways may be added to the Transportation Routes and Functional Classifications, Map 9. These pathways could depict possible extensions of the pathway system being planned in Ada County...

By identifying the pathway system along the Boise River, the Canyon County Comprehensive Plan makes it county policy to extend a pathway system along the Boise River through Canyon County. The Ada County Comprehensive Plan identifies the Boise River Greenbelt as it follows the river from Lucky Peak to the westerly border as a priority for recreation and transportation in Ada County. The Eagle Comprehensive Plan does the same thing for the pathway system through its jurisdiction. This pathway system would link and extend the Boise River Greenbelt/pathway system from Lucky Peak State Park through the cities of Boise, Garden City, Eagle, through Eagle Island State Park and Ada and Canyon Counties to the Snake River.

Foundation for Ada/Canyon Trail Systems (FACTS)

The Foundation for Ada/Canyon Trail Systems (FACTS) is a non-profit organization that is actively working to complete the development of the Greenbelt along the Boise River from Lucky Peak to Eagle Island State Park. Pathway development and easements have been secured to bring the Greenbelt

as far west as Eagle Road. FACTS is also interested in linking trails and pathways from the west (Canyon County) to Eagle Island State Park, thus making the park a hub of recreation trail activities. FACTS works with cities, counties, highway districts, state and federal agencies, and other public and private agencies to expand and improve existing trail systems and to acquire sites for future trail systems. The Foundation's goal is to provide and/or encourage provisions for non-motorized use trail systems for the benefit of the general public of the Treasure Valley. The FACTS trail information is mapped by COMPASS, the Community Planning Association, formerly Ada Planning Association.

INITIAL PARK DEVELOPMENT PLAN

Much of the potential of Eagle Island State Park has yet to be realized. Only a small portion of the park has been developed for recreational use, largely due to lack of funds for development. In 1980, IDPR contracted with Richard Carothers and Associates to prepare a General Development Plan (GDP). This plan, adopted by the IDPR Board in November 1980, has guided development and management of the park since its creation.

The initial GDP process included inventories of soils, vegetation, hydrology, utilities and other site resources and attributes, as well as statewide and local recreation needs and trends. An assessment of the park's land suitabilities and recreation needs led to its classification as a "State Recreation Park."

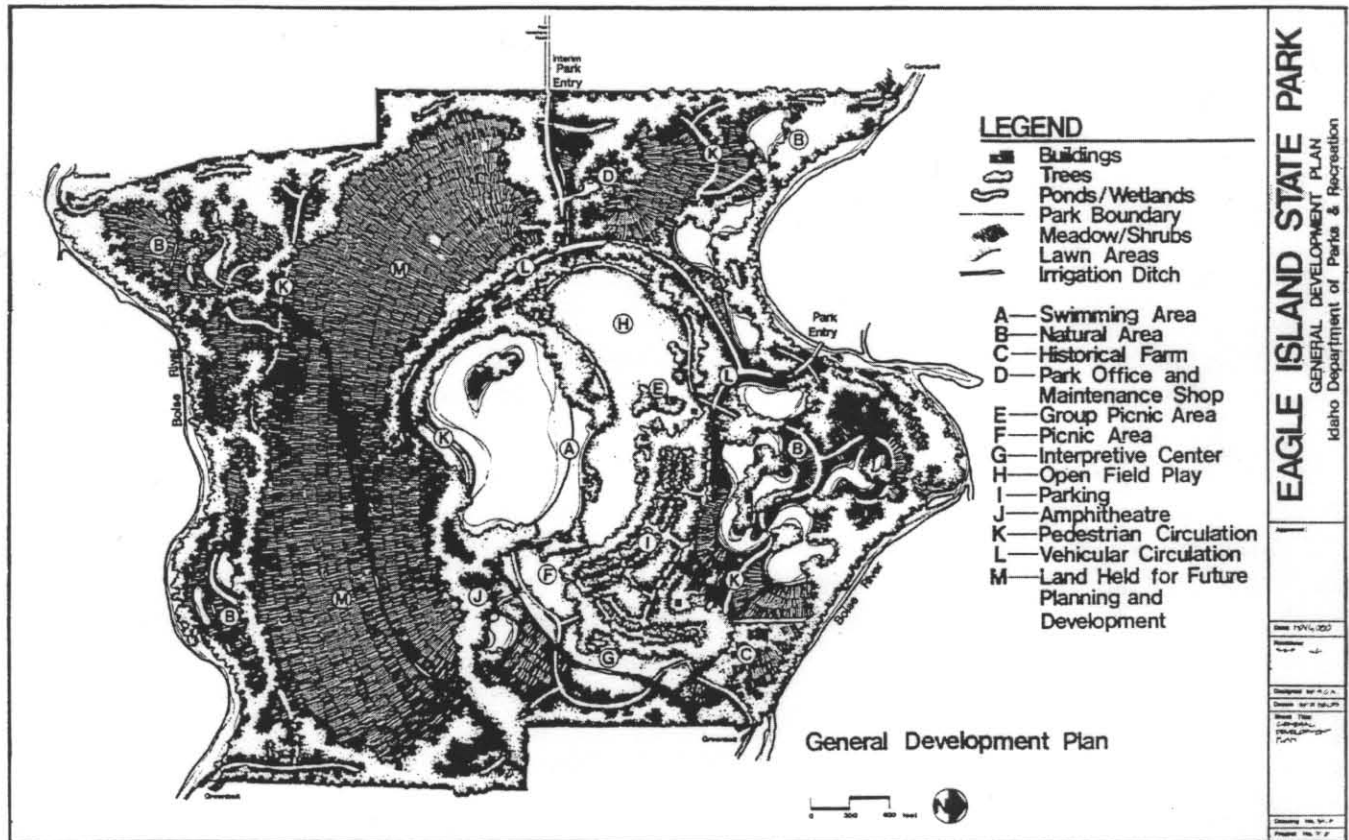
Within the classification, a major departmental objective was to develop recreation facilities capable of generating revenue to supplement or to sustain operating budgets. A recreation park was and is designated



because of the need to offer a wide variety of recreational activities. Two major resource amenities were identified as key to the future development of Eagle Island State Park. The first was the opportunity provided by the Boise River and its floral and faunal attributes. The second was the adapt-

3. swimming
4. golf
5. nature walks
6. visiting historical and cultural sites

The conceptual plan concentrated inten-



Concept drawing from original park General Development Plan.

ability of the large, relatively flat and open site, which presented opportunities for various types of development and use intensities. The original plan urged caution in development, with "sensitive use and protection of the Boise River shoreline habitat."

Six activities and land uses were identified as being compatible with the resource suitabilities and recreation needs of the area.

1. bicycling
2. picnicking

sive use in the center of the park, leaving the perimeter and river edges as less intensively used and as general open space. The intensive use areas in the central portion of the park included the main lake, swimming, group picnic and open field play.

The natural areas included riparian buffers along both river channels and perimeter lands. New ponds were proposed along the north side of the park to enhance habitat and the visitor experience entering the park. The proposed cultural areas included the



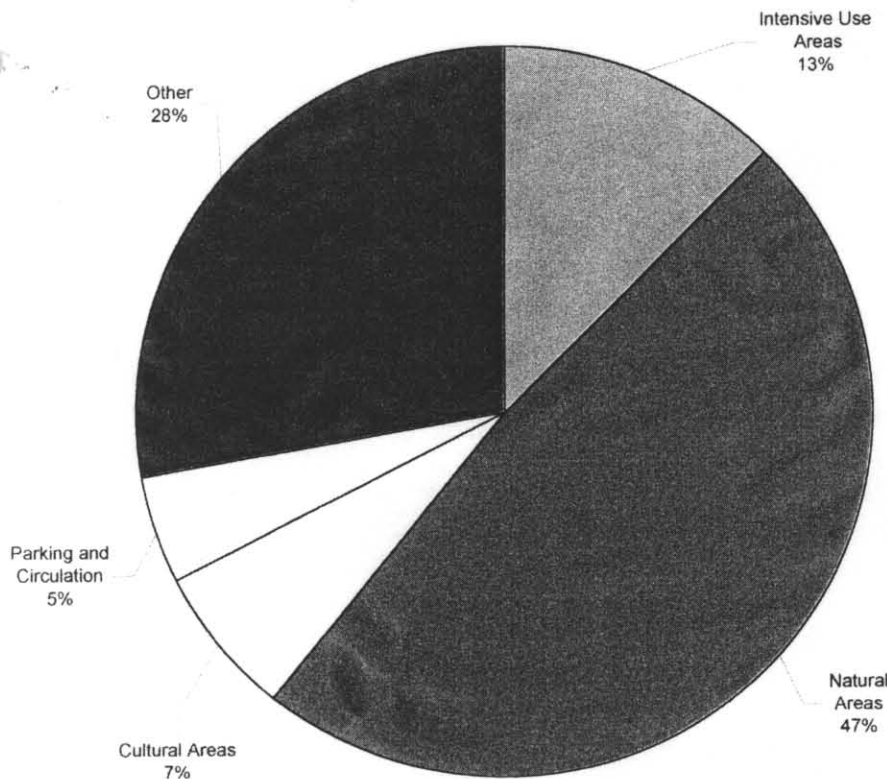
historical prison farm buildings and a new interpretive center and amphitheater.

A park pathway system was envisioned as connecting to the regional Greenbelt path.

About 150 acres were designated as "Land Held in Trust." This land was held for future development when funding and

ment plan, there was discussion over which activity areas within the park should have development priority. There was an emphasis on creating revenue-producing activities within the park system, so there was discussion of developing the golf course and some natural areas concurrently and first.

**Eagle Island State Park
General Development Plan
1980
Allocation of Land Uses**



Intensive Use Areas		
Swimming Area	17	acres
Group Picnic Area	6	acres
Picnic Area	6	acres
Open Field Play Area	11	acres
Main Lake	29	acres
Subtotal	69	acres

Natural Areas		
Natural Area	184	acres
Northern Lakes	29	acres
Buffer/Transition Area	50	acres
Subtotal	263	acres

Cultural Areas		
Historical Farm	30	acres
Interpretive Center	2	acres
Amphitheater	4	acres
Subtotal	36	acres

Parking and Circulation		
Parking	15	acres
Pedestrian Circulation (28,000 L.F.)	6	acres
Vehicular Circulation (7,800 L.F.)	6	acres
Subtotal	27	acres

Other		
Park Office	1	acres
Land Held in Trust	150	acres
Subtotal	151	acres
Total Acreage	546	acres

Fig. 3.6

feasibility coincided to make it possible. Activities considered for the area included an 18-hole golf course, an indoor recreation complex with a swimming pool, racket courts and clubhouse.

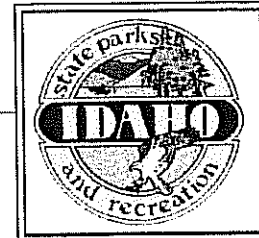
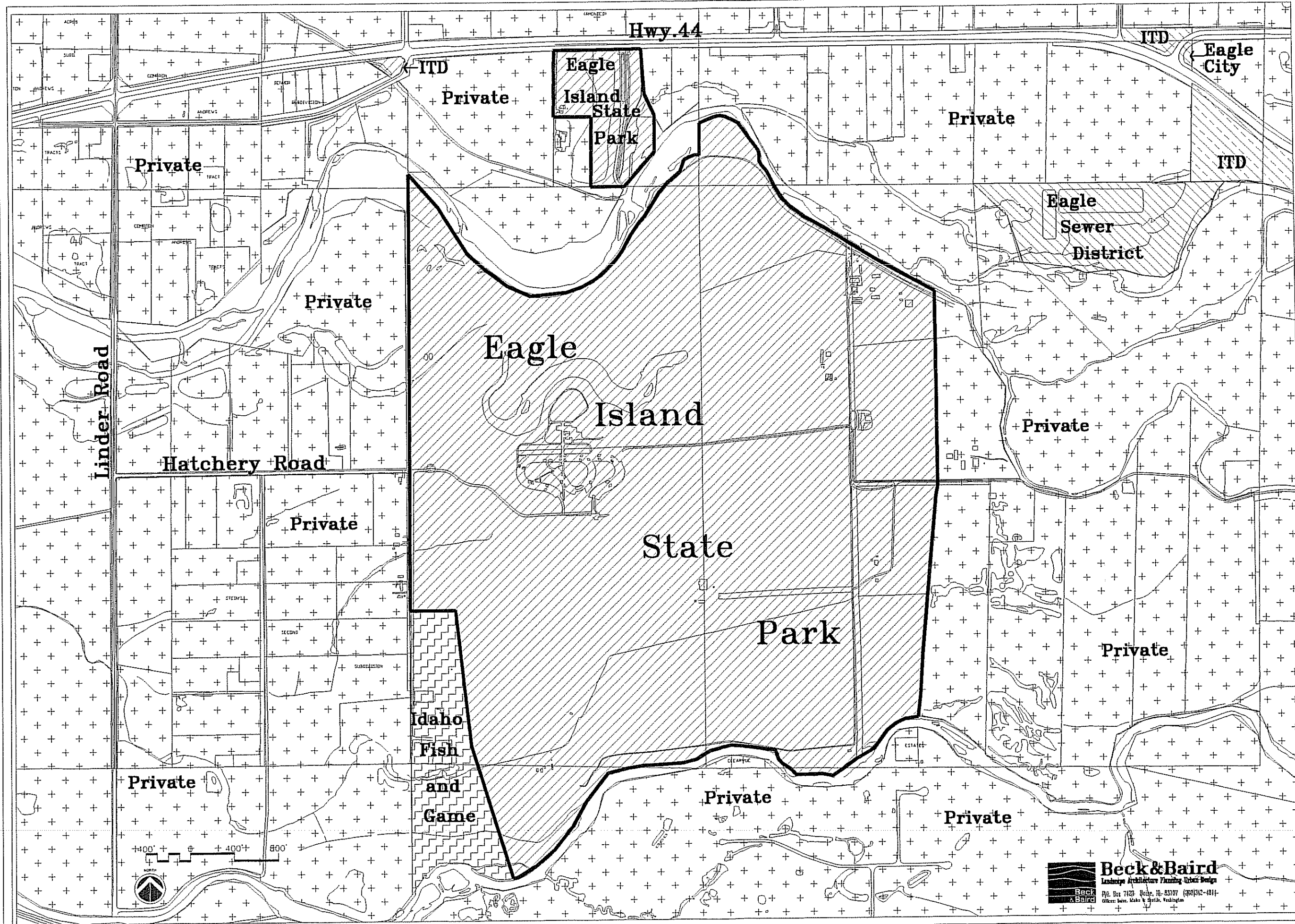
Figure 3.6 displays the land amount allocated to the various uses in the general development plan.

After adoption of the general develop-

Funding was not available for a large construction project, such as the golf course.

Development within the park has not proceeded as envisioned, largely due to lack of funding. Presently, the swimming beach and water slide area with associated parking and picnic areas are the only developed recreational activities and the only portion of the park open to the public. The devel-

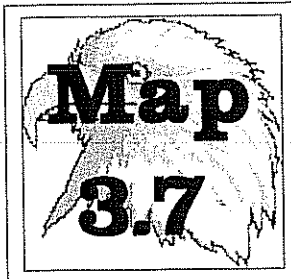




ADJACENT LAND OWNERSHIP MAP

EAGLE ISLAND STATE PARK

NOVEMBER, 2000



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oped recreation areas, including the lake, cover approximately 20 acres. The rest of the property is managed as grazing pastures and hay fields. The agricultural land is leased.

ADJACENT LAND OWNERSHIP

Eagle Island State Park is almost entirely surrounded by land in private ownership. See Map 3.7. The Idaho Department of Fish and Game has a fish hatchery at the southwestern corner of the property, and the Eagle Sewer District's wastewater treatment plant is located across the north channel of the Boise River to the northeast. Otherwise, the park is surrounded by private property.

Presently, the land use of the surrounding private properties is varied, with some larger parcels to the east and north devoted to row crops and grazing, and with rural residential estates, ranchettes and a mobile home park on the south and west. However, given the phenomenal growth exhibited in this area and the fact that the entire site is within the Eagle Area of City Impact, it is important to consider the allowed land uses and what changes could occur over the next several years.

TRANSPORTATION

Eagle Island State Park is located south of Highway 44, east of Linder Road, west of Eagle Road (Highway 55) and north of Chinden Road (Highway 20-26). Highway 44, Chinden Road and Eagle Road are state highways, designated principal arterial roads with a capacity of as much as 30,000 cars per day. Linder Road is a minor arterial, with a daily capacity of 12,500 vehicles (APA, 1999).

Presently, access to the park is by way of Fish Hatchery Road, a rural collector road from Linder Road. However, IDPR is

planning to build a new entrance to the park directly from Highway 44. This will create an entrance with direct access to a principal arterial and a state highway. The new entrance will increase park visibility and improve access to thousands of people every day.

Park maintenance and service access is from an extension of Mace Road off Eagle Road. See Map 3.8.

Destination 2020 Long Range Transportation Plan

Ada Planning Association (1999) released a list of recommended changes to Ada County's Long Range Transportation Plan. These changes included recommendations that affect the future of transportation to and from Eagle Island State Park. The following list includes the recommendations that would impact Eagle Island:

1. Design and construct a river crossing and extension of Highway 16 from Emmett to I-84.
2. Increase Highway 44 to five lanes.
3. Designate Highway 44 from Eagle to Star as a limited access road and develop a corridor access control plan.
4. Preserve a corridor for continuation of the Boise River Greenbelt west to the Ada County line. Preserve pedestrian facilities along the Boise River. Provide for a greenbelt along the Boise River with pedestrian and equestrian access all the way to Caldwell.
5. Increase the implementation priority for the west county river crossing between Ten Mile Road and Black Cat Road to connect Highway 16 to the proposed interchange with Interstate 84.

These recommendations are significant in that they reiterate what is said in other planning documents from lower Boise River Valley communities:

1. Highway 16 will connect to I-84 by



crossing the Boise River west of Eagle Island State Park. This will allow for increased traffic and better access to the park both from local and statewide sources. This will also increase visibility of the park to the public, thereby increasing demand for recreational facilities at Eagle Island State Park.

2. Increasing the number of lanes west of Eagle and making Highway 44 a limited access corridor will increase traffic to and visibility of the park. Making the highway a limited access corridor could create problems with IDPR's plans to access the park from Highway 44.

3. Plan for development of recreational use of the Boise River corridor including a pathway system that stretches from Lucky Peak to Caldwell. Provide for equestrian as well as pedestrian use of this pathway. Eagle Island State Park is a natural point to develop as a hub for this pathway system. The inclusion of equestrian use is also significant in that horses are not allowed on the majority of the Greenbelt in the Boise City area, and western Ada County is home to many horses and horse lovers. As western Ada County continues to grow, open spaces for riding horses is rapidly disappearing.

UTILITIES

Potable water, wastewater, telephone, electricity and natural gas are the utilities shown on Map 3.9 and discussed in this section.

Potable Water Systems

Potable water for the prison farm complex came from wells at each of the various building sites. The maintenance shops are served by a well north of the dairy barns. Park staff reports seven wells from the prison farm era that are artesian, at least part of the year, and still flowing. These wells could be used for limited sprinkler irrigation if reha-

bilitated.

The water slide and swimming area is served by a well south of the water slide. This is a public water system and is tested periodically by the Department of Environmental Quality. The swimming pond is fed by an artesian well to the north of the pond and by shallow groundwater.

United Water Idaho has water lines along State Highway 44 west to Linder Road and north from Chinden Road along Eagle Road to the Island Woods Subdivision.

Irrigation Water Systems

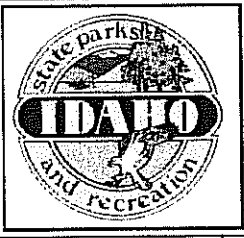
Three irrigation systems, the Ballantyne Ditch, the Hart-Davis Canal, and the Mace-Catlin Canal serve the site. Of these, the Hart-Davis and Mace-Catlin are part of the Eagle Island Water Users Association. The park property has rights to 6.8 cfs from the Hart-Davis Canal and 1.9 cfs from the Mace-Catlin Canal (CH2M Hill, 1986). This amount of water is adequate to irrigate the entire site throughout the irrigation season. The water rights on these sources are believed to predate the prison farm, with one report of the water right being Number 4 on the Boise River.

Waste Water Systems

The existing buildings have individual septic tank/drain field systems. The maintenance shops have a drainfield north of the buildings. The waste water drainfield for the water slide and swimming area is west of the pond. The local groundwater is monitored periodically to ensure no contamination is leaking from these systems.

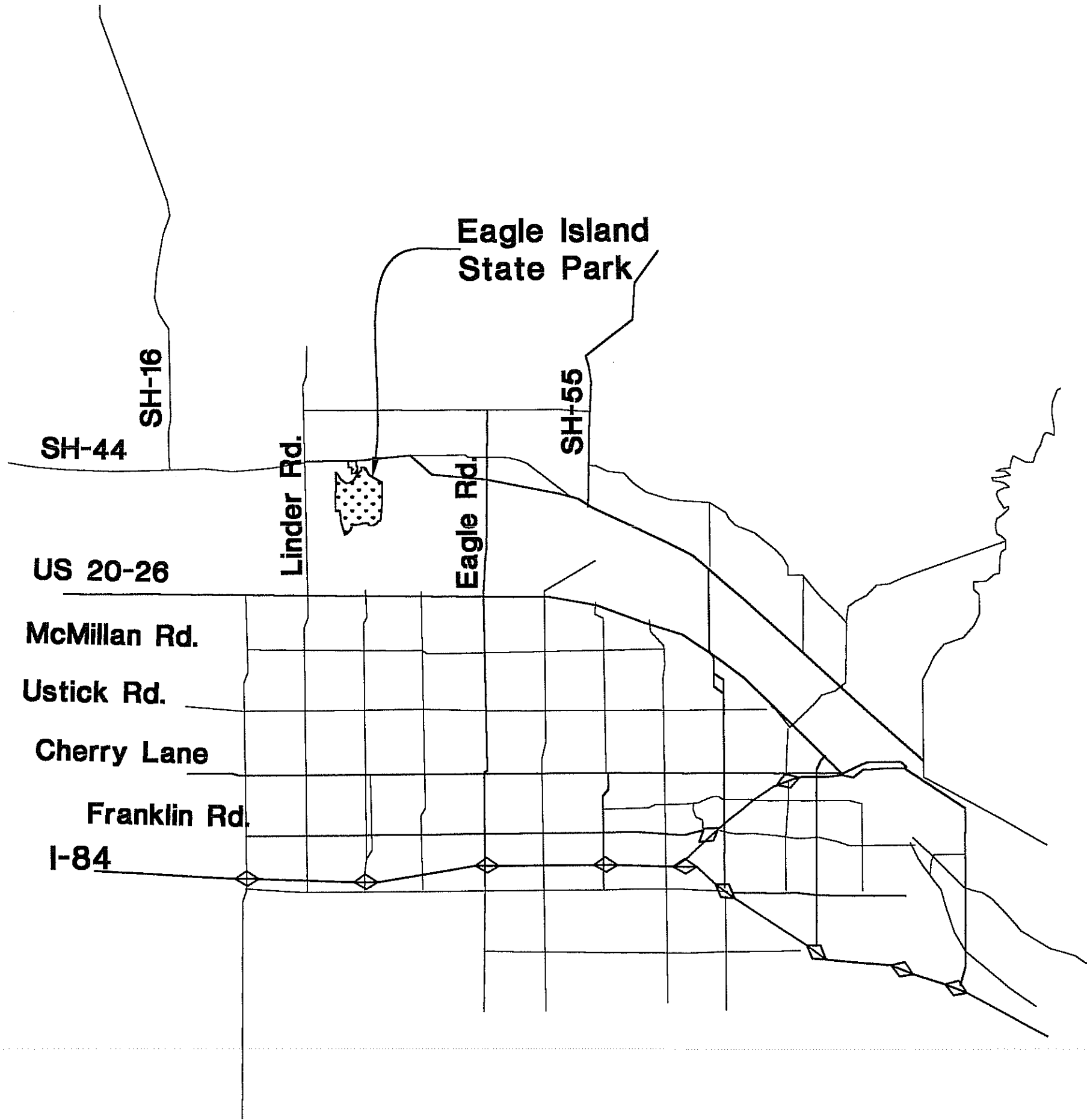
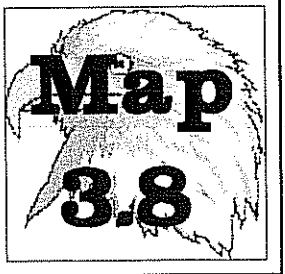
Because of the high water table, there is concern about installation of additional septic systems in the Eagle Island area. The Central District Health Department will allow (within limits allowed by code) additional septic systems on the site until such

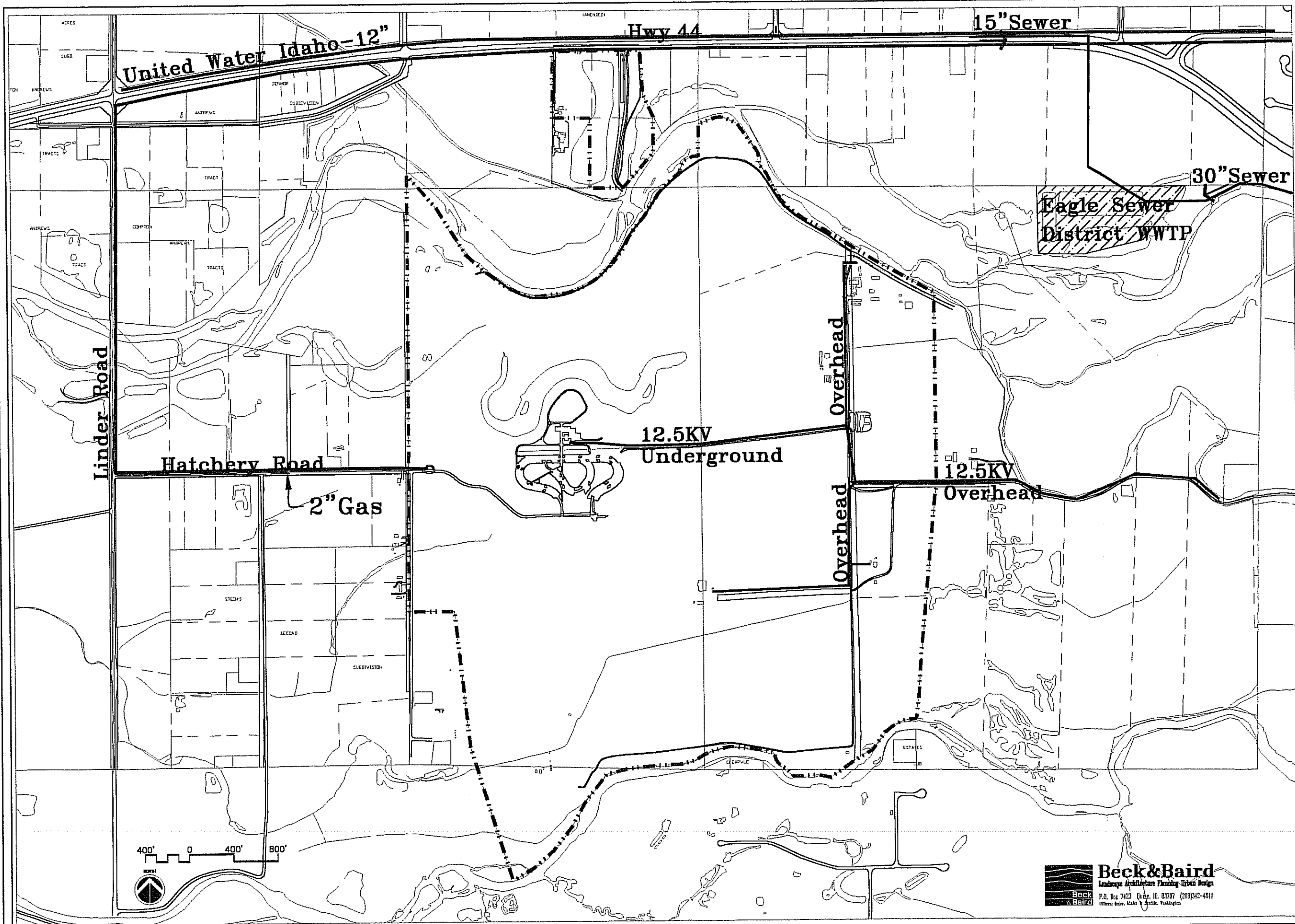




TRANSPORTATION NETWORK EAGLE ISLAND STATE PARK

NOVEMBER, 2000

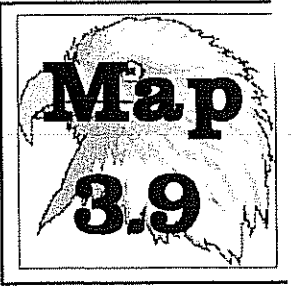




UTILITIES INFRASTRUCTURE EAGLE ISLAND STATE PARK

NOVEMBER, 2000

pad 1



Beck & Baird
Landscape Architecture Planning Urban Design
P.O. Box 7423 Boise, ID 83707 (208) 342-4011
Offices: Boise, Idaho & Seattle, Washington

time as Eagle Sewer District extends the system to include the park.

Eagle Sewer District has a wastewater treatment plant across the north channel of the Boise River, a half mile upriver from the site. A 12 inch sewer line and pump station are located along Mace Road approximately a half mile east of the site. A future sewer line is planned along Highway 44 with a pump station in the vicinity of Linder Road.

Telephone Systems

US West Telephone Company serves Eagle Island State Park. Two phone lines and a fax/computer line come into the maintenance shop, with extensions to the water slide office. There is a pay phone near the snack bar area. Trunk lines along Highway 44 and Eagle Road provide expansion capacity.

Electrical Systems

Idaho Power Company supplies Eagle Island State Park with electrical power. 12.5 kv, 3-phase power comes into the maintenance shop area with branch underground service to the water slide area. The water slide has a 200 kva, 12.5 kv, 3-phase transformer with a 50 kva, 12.5 kv, 3-phase transformer for the concessions and restroom buildings. There is an underground service drop to the existing entrance building. Highway 44 and Eagle Road are major transmission corridors for Idaho Power Company. Additional electrical capacity is available to the site within a reasonable distance.

Natural Gas Systems

Intermountain Gas Company serves the Treasure Valley with natural gas. In the Eagle Island area, natural gas lines run along Highway 44, Eagle Road and Linder Road with a 2 inch service line at the intersection of Fish Hatchery Road and Artesian Road.

FACILITIES

There are historic buildings and new facilities built since the prison honor farm became a state park. Map 3.10 shows the location of the buildings and labels them according to their past or present uses.

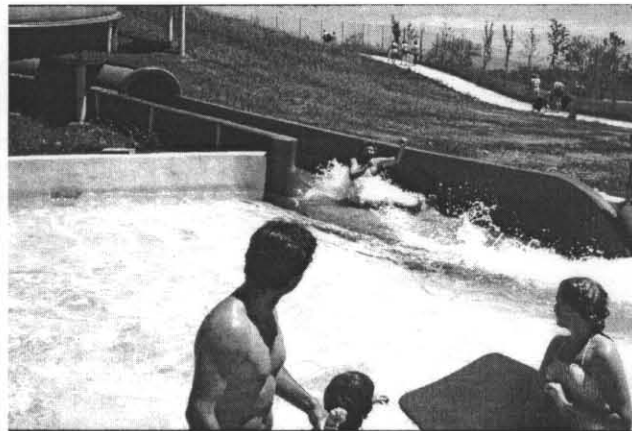
Recreational Facilities

Entry Kiosk

The entry kiosk is located on the current entry off Hatchery Road. It provides shelter for the staff person collecting entrance fees. The small building may be moved to the new entrance off Highway 44.

Water Slide

The present water slide was built in 1996. It replaced the original slide built in 1983. It is about 20 feet high and almost



The waterslide provides refreshing fun for the whole family.

300 feet long, and has a useable life of 10 to 15 years. Inadequate topsoil in this area makes maintenance of turf areas problematic.

Water Slide Pavilion/Concessions/ Restrooms/Picnic Shelter

These buildings were part of the original development of the site in 1983. The buildings were designed to reflect the char-



acter of the prison farm buildings. Needed improvements include up dating and winterizing the restrooms, catching up deferred maintenance items and a new staff office area.



Swimming beach at Eagle Island State Park.

Swimming Beach and Picnic Area

The 15 acre, man-made lake with its 1,100 foot long swimming beach is the centerpiece of Eagle Island State Park. The lake was completed in 1983. The excavated fill from the lake was used to build the 35 foot high earthen base for the water slide. The beach sand was imported. Inadequate topsoil in this area makes maintenance of turf areas problematic.

East Picnic Shelter

Constructed by Job Corp participants during the summer of 1999, this picnic shelter is like the shelter on the western side of the water slide mound. It will provide a sheltered place for groups and individuals. Future improvements that

are needed near the shelter include handicapped accessible paths, a drinking fountain and a restroom.

Park Maintenance Building

The maintenance building is east of the developed recreation area, accessed by a road not open to the public. The building is not well adapted for use as an office.

Historic Prison Farm Buildings

Horse Barn/Park Maintenance Yard

Originally built to house the prison farm's horses, this barn and shed complex has been renovated to accommodate the park maintenance staff and equipment. More covered storage areas are needed.

Dairy Barns/Silos/Outbuildings

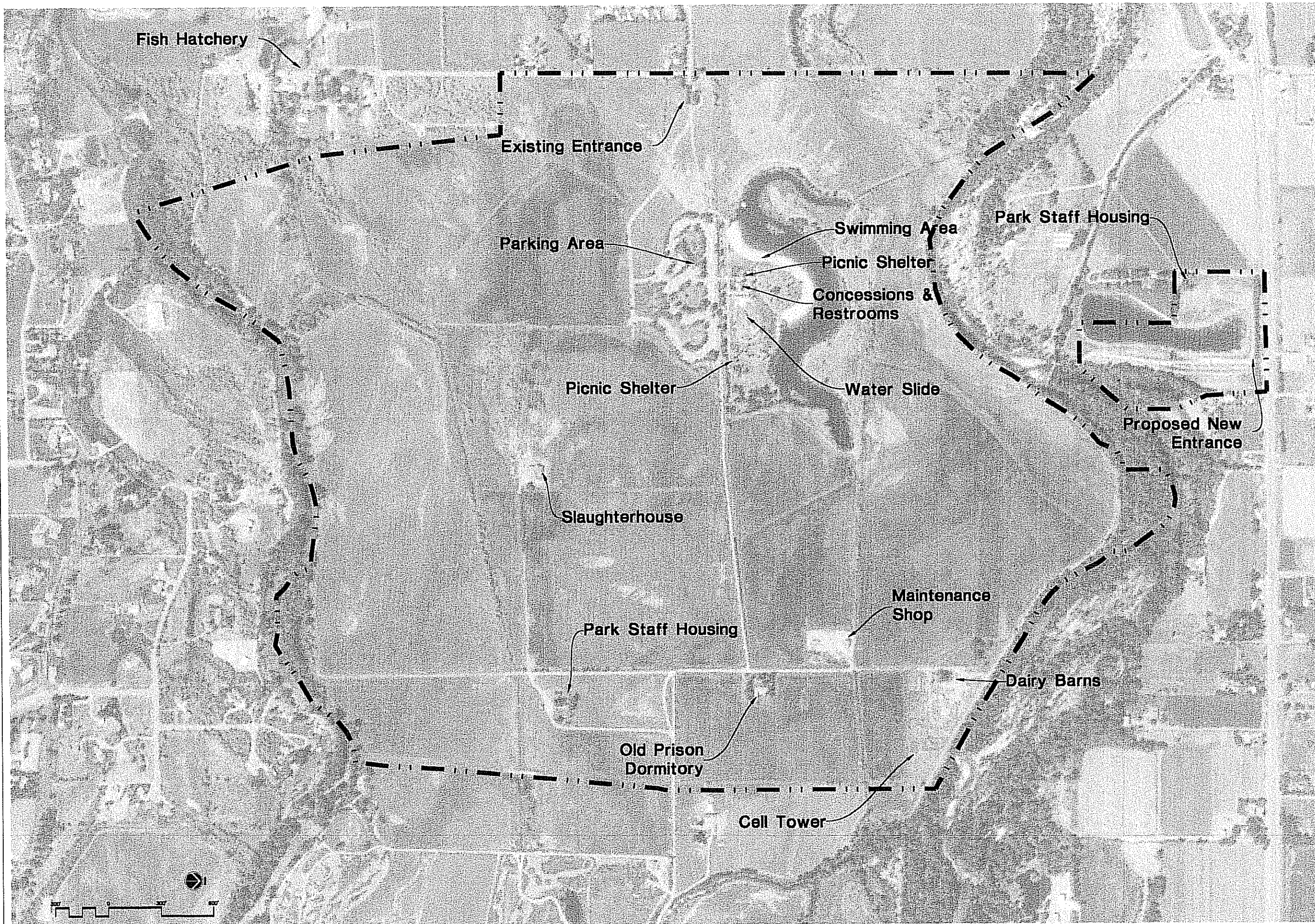
There is a centralized barn flanked by two silos and support buildings. The rest of the area consists of various storage build-



Old dairy buildings and silos used when Eagle Island was home of the state prison honor farm.

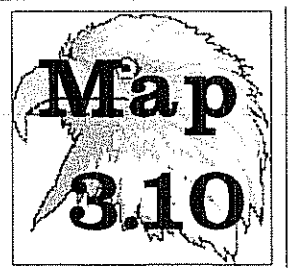
ings, stables and corrals. The dairy barns/silos/outbuildings supported an intensive milking program that occurred at the prison farm.





FACILITIES INVENTORY EAGLE ISLAND STATE PARK

NOVEMBER, 2000



Dormitory/Dining Hall

The dormitory was built around 1949, and was designed by the Boise architectural firm of Wayland & Fennell. It was built by prison labor for \$29,000. It is influenced by the Art Deco style of that period and is constructed of concrete and wood framing.

The T-shape plan consists of two wings of dormitory space with a central parlor flanked by an entry and guard station on either side. The dining hall and kitchen extend perpendicular to the wings.

Slaughterhouse

The Slaughterhouse was built in 1965. It was designed by the Boise architecture firm, Wayland, Cline & Small. Cattle and hogs raised on the prison farm were butchered and processed in the slaughterhouse. The prison farm supplied its own beef and pork, plus some to other state institutions.

Superintendent's Housing

Little is known about the history of this house. Today, it is used for park staff housing.

EXISTING LAND USE AGREEMENTS

Concessionaire

The snack bar and paddle boat rentals at the swimming area are operated by a concessionaire of the State of Idaho. The existing contract will expire December 31, 2001.

Grazing and Haying Lease

The Eagle Island State Park property not in use for the water slide and swimming areas is leased to a local rancher for haying and grazing for cattle. The present lease agreement will expire December 31, 2004. However, the lease contains a clause allowing IDPR to terminate the lease with 90 days

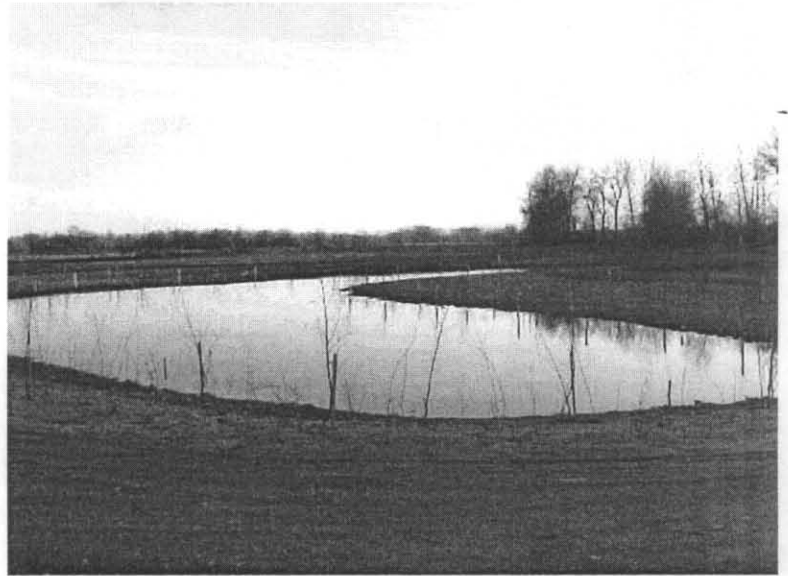
notice in case of new development in the park.

Cellular Phone Tower Lease

U.S. West leases a small area in the northeastern corner of the park for the operation of a cellular telephone tower. The lease is subject to renewal December 31, 2003.

Wetlands Mitigation Agreements

IDPR has agreements with the Ada County Highway District for construction of



Wetland created in the park by the Ada County Highway District.

wetland and upland habitats to mitigate for road construction elsewhere. Some wetland construction has occurred and more is planned. The Department is making the park available as a wetland mitigation site.

HISTORICAL AND CULTURAL RESOURCES

In 1864, T.C. Catlin staked out a homestead that included the Eagle Island State Park property and secured water right Number 4 on the Boise River. Prior to this time, the Boise River valley was home to bands of Northern Paiute and transient trappers



and miners. Due to its location in a floodplain, Eagle Island does not contain any sites of archaeological or early cultural significance as multiple overland flooding events have destroyed them.

In October 1929, the State Board of Prisons purchased the Eagle Island property from Karl Fischer of Eagle for \$72,000, for use as a prison honor farm. The next spring, the Eagle Island Prison Farm began operations with 40 trustees, and Carlton B. Holt as superintendent. The property was administered as a minimum-security institution.

The land was first used for grazing by cattle and hogs. During the first few years of operation, much time and money was put

house and the dormitory made the farm a year-round operation.

The prison farm at Eagle Island was controversial throughout its history. Much criticism came from within the prison system itself. S.M. Poarch, acting warden, in 1944 suggested that Eagle Island was "actually a white elephant and should be disposed of."

The Idaho State Historical Preservation Office has expressed interest in preserving and interpreting the remaining facilities of the prison farm (Watts, 1999). The remaining buildings include the dairy barns and associated outbuildings, the dormitory and dining hall building, the slaughterhouse and the superintendent's house.

HISTORICAL BUILDING ANALYSIS

The analysis of the historical buildings was done by visual inspection and photographic documentation of the existing building conditions (ZGA, 1999). Focus areas were those where stabilization methods could be used to protect the buildings from further deterioration until the planning for their future use(s) is complete. The inspection included the examination of the roof systems, window and door openings and wall conditions. All of the major buildings appear to be usable if rehabilitated. The complete report is included in Appendix 6.

Dairy Barns/Silos/Outbuildings

The majority of the farm buildings are of wood construction with the exception of the silos and milking barn; these are constructed of concrete and concrete block, respectively. Structurally the barns and silos appear to be in good condition. There were no apparent signs of structural failure.

Several of the outbuildings were in poor condition structurally, either leaning or at complete structural failure.



Portions of the park are leased for grazing and hay production to provide revenue and protect against noxious weeds.

into clearing and leveling the land to make it tillable. Attempts to raise enough grain and hay to support the livestock failed, as did attempts to raise vegetables. Cultivation of the ground was unsuccessful due to the gravelly subsoil.

Many structures were constructed to accommodate the increasing needs of the prison honor farm. Cow barns, hog and chicken houses and granaries aided in establishing the institution as a working farm. Support buildings like the superintendent's



The wood shingles on the roofs of the structures were in poor to fair condition. Loose and/missing shingles were witnessed



Old wood dairy buildings and silos.

throughout. The interiors of the structures were dry, indicating the roof sheathing may be in satisfactory condition. Openings within the gable or gambrel end of the structures are allowing some moisture to enter the interiors. The silos currently do not have roof structures, leaving the interiors exposed to the elements. Overall the roof systems are in need of repair and perhaps complete or partial replacement.

The exterior walls were in fair to good condition. Lack of maintenance has left the wood siding exposed to the sun, wind and moisture allowing it to become dry and bare. There were several areas where the siding was missing exposing the structure underneath. The concrete walls of the silos and milking barn were in good condition.

The windows, doors and trim (including along the roof) were in poor to fair condition.

Lack of maintenance has caused some of the wood trim to split and come loose from the

substrate. The majority of the glazing in the windowpanes is either missing and/or broken, allowing moisture to enter the build-

ings. The application of corrugated metal panels has helped prevent serious damage to the interior finishes and structural systems.

The interiors of the structures were in poor to fair condition. The accumulation of debris, broken glass, etc., clutters the floors of the small wood buildings adjacent to the barns.

There were some signs of water damage

most likely due to unprotected openings that are allowing moisture to enter, causing minor damage to the floors and walls. The general condition of the barns is good. The interiors were dry and appear to have been in their original condition.

Dormitory/Dining Hall

The building is constructed of concrete block with wood floor joists and concrete windowsills. Structurally the dorm and dining hall appear in good condition. There were



Prison honor farm dormitory.



no apparent signs of structural failure encountered during the analysis with the exception of one room where a section of the wood floor had caved in, most likely due to the presence of moisture and the weight of a radiator.

During the analysis of the roofing system, several interior locations were documented where there was extensive water damage on the ceiling and areas of complete failure of the ceiling system. This indicates there are considerable problems with



Ceiling failure in the dormitory.

the roofing system. A complete investigation of the roofing system is necessary to determine the extent of damage and failure.

The exterior concrete walls are in good condition. Lack of maintenance has left some areas where the paint is peeling, leaving the concrete exposed.

The windows, doors and trim (including along the roof) were in fair to good condition.

The concrete window-sills and roof coping were in good condition. The wood coping on the eastern side of

the building (along the dining hall) is in fair condition. There are areas where the wood was bare and exposed to the elements. The majority of the glazing in the windowpanes was either missing and/or broken, allowing moisture to enter the buildings. The application of corrugated metal panels has helped prevent serious damage to the interior finishes and structural systems.

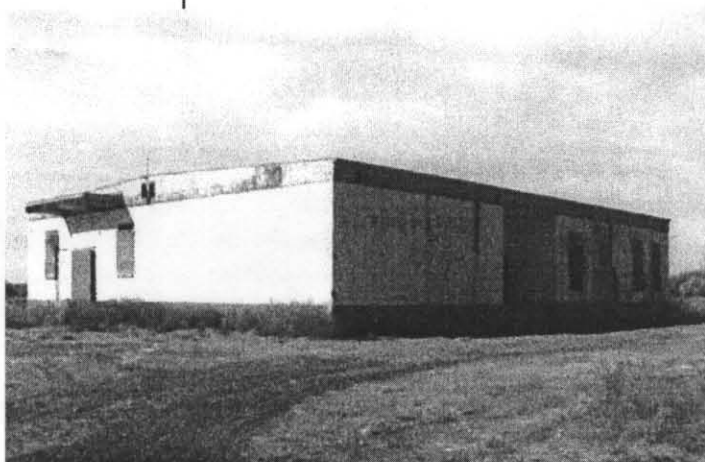
The interior was in poor to fair condition. The deterioration and leakage of the roof has caused damage to the walls and floors.

Slaughterhouse

The building is constructed of concrete and reinforced pumice block. Structurally the slaughterhouse appears in good condition. There were no apparent signs of structural failure encountered during the analysis.

The analysis of the roof system revealed several interior locations where there were signs of moisture on the walls and ceiling. This indicates that there may be problems with the roofing system. A complete investigation of the roofing system is necessary to determine the extent of damage.

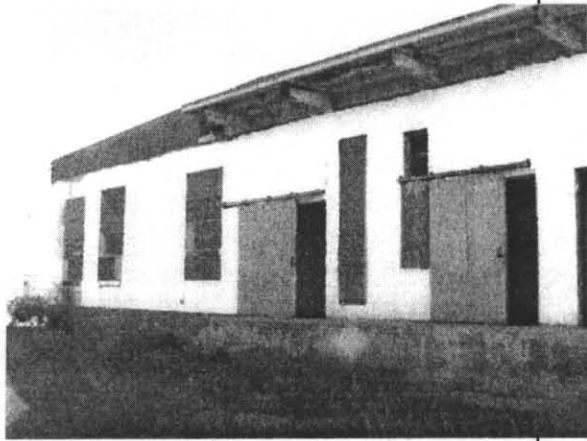
The exterior walls are in good condition. Lack of maintenance has resulted in areas where the paint is peeling, exposing the concrete. The cement asbestos board



Southwest corner of the slaughterhouse.



along the gable end is in fair condition. It shows signs of exposure to the elements and lack of maintenance.



North side of the slaughterhouse.

The windows, doors and trim (including along the roof) are mostly constructed of concrete. These were in good condition. The majority of the glazing in the windowpanes is either missing and/or broken allowing for moisture to enter the buildings. The application of the corrugated metal panels has helped prevent serious damage to the interior finishes and structural systems.

The interior is in good condition with some areas of water staining on the ceilings and walls. The original use of the building called for structural and finish materials that would hold up to moisture intensive conditions. This has helped in preserving and preventing severe interior deterioration. There are locations where the plywood ceiling has been removed, allowing for birds to inhabit the roof structure.

Recommendations

Until a decision is made on the future of the Eagle Island prison farm buildings, the roof, doors and windows are key elements that need to be stabilized to prevent further damage and deterioration to the structures. This process is known as mothballing. There have been some attempts to secure interiors and to protect

the windows with the application of the corrugated metal panels. It was observed, however, that there were several locations where the panels did not cover the entire window and panels were not applied to all windows.

Two short-term options for stabilizing the roofs depend on funds available and length of time the roofs must be stabilized. Securing a tarpaulin over a roof is a quick and inexpensive solution and is a good choice if action on the building is scheduled to begin soon. If it may be 12-18 months before work begins on the structure, then it is recommended that the existing roof be covered with a corrugated metal roof or a rubberized membrane.

A long-term solution would be to repair the roof by replacing cracked or missing shingles and securing the flashing at the ridges or removing the existing roofing system and installing a new roof.

Doors and windows can be secured with additional corrugated metal panels, as seen in most of the buildings, or by inserting plywood panels. Each panel should contain at least one, two to three inch diameter, screen-covered hole to allow for ventilation.



Former prison farm horse barn, now utilized as the park office and shop.

